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SARNATH:
A MASTER PLAN FOR TOURISM DEVELOPMENT

by the Department of Landscape Architecture | University of Illinois at Urbana-Champaign

A Cooperative Project of:
Ministry of Tourism and Civil Aviation | Government of India
National Park Service | United States Department of the Interior

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COVER: THE DHAMEKH STUPA AT SARNATH.
TITLE PAGE: THE SARNATH BUDDHA.
(PHOTOGRAPHS BY ISAMU MARUYAMA)

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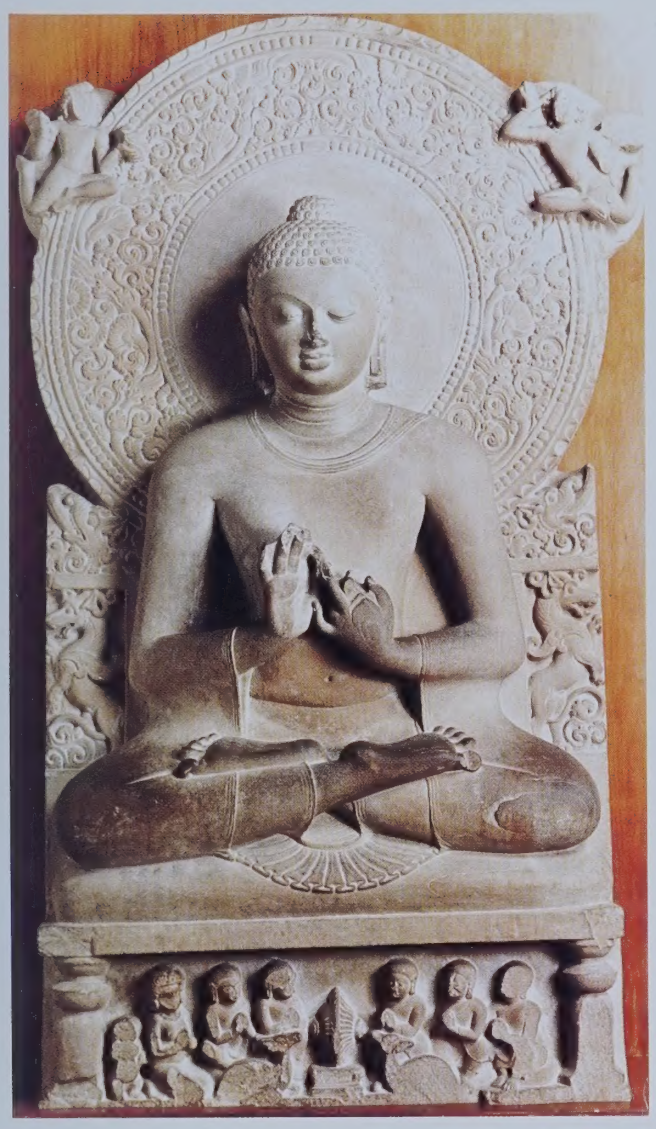

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NEW DELHI. 560.90

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ACKNOWLEDGMENTS

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ONE INTRODUCTION

This Introduction and the Conclusion together constitute a Summary of this project report.

FIGURE I-1. ASHOKAN PILLAR AT VAISHALI.

FIGURE I-2. MAP OF INDIA WITH IMPORTANT BUDDHIST SITES INDICATED.

India, Mother of Hinduism, is also the birthplace of Buddhism, and played a major role in its propagation and development. Indeed, of the eight most significant events in the life of the Buddha, seven are known to have occurred at places in India. The legacy of these events is recorded in the states of Uttar Pradesh and Bihar, where archaeological ruins can be found dating to the time of the emperor Ashok—a glorious period in the history of India. Ashok was instrumental in the development of these Buddhist sites and, fortunately for those who would know the sites today, erected a column at many of them, to celebrate the occurrence of the event [Fig. I–1].

The Indian government's Ministry of Tourism, recognizing the importance of these seven sites in the cultural development of India and their significance to Buddhists worldwide, has launched a campaign to promote the sites, and to develop them appropriately for the varied interests of religious pilgrims as well as foreign and domestic tourists. In the fall of 1986, a ministry task force prepared "An Action Plan for the Development of the Buddhist Sector," a report that recommended a development program for facilities and infrastructure at all of the sites. The ministry contacted the United States National Park Service, with which the government of India has had a long working relationship, for assistance in development. The Park Service's International Affairs Branch invited the Department of Landscape Architecture of the University of Illinois at Urbana-Champaign to join the effort. The department was requested to review the sites, to determine which were appropriate for further study, and to develop conceptual master plans for those selected.

In June 1987, nine locations were visited and evaluated: Sankasya, Shravasti, Piprahwa, Kushinagar, Sarnath, Bodh Gaya, Rajgir, Nalanda, and Vaishali [Fig. I–2]. Seven of these sites traditionally and conclusively were the locations of powerful events in the Buddha's life, events that are greatly important to believers. Nalanda is the location of an ancient international Buddhist university, and recent discoveries indicate that Piprahwa may be ancient Kapilavastu, capital of the Sakya Kingdom, which was ruled by the Buddha's family.

The Indian government, interested in eventually developing all of these locations, wanted to know which should receive top priority. The sites were evaluated for their attractiveness to the following types of visitors:

* Religious pilgrims, who consider most important those places representing the eight major events of the Buddha's life. (The importance of Sankasya was slightly diminished because of its remoteness.)

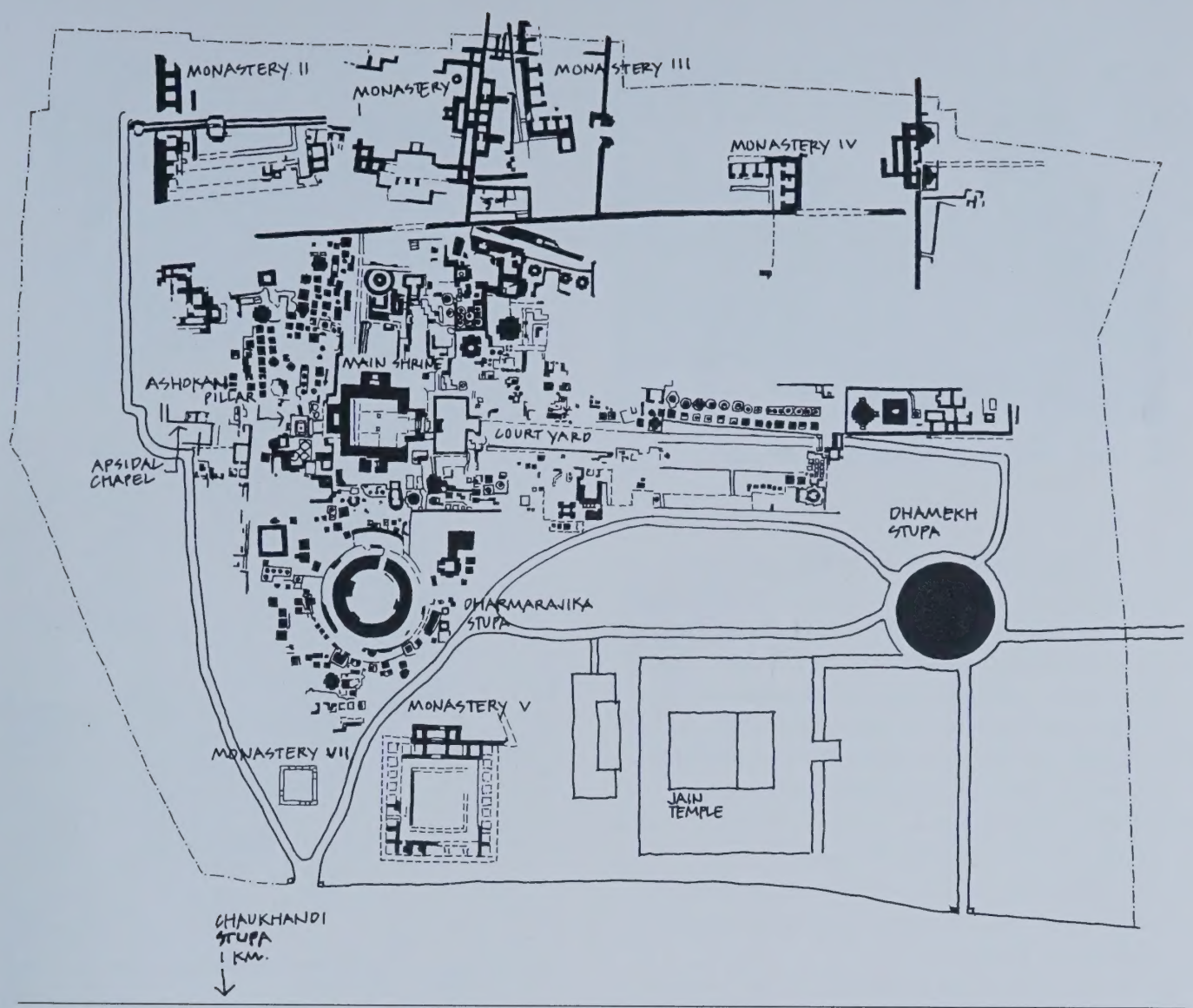

FIGURE I-4. MAP OF THE ARCHAEOLOGICAL SITE, SARNATH.

VISITOR GROUP

BUDDHIST SITE	Religious pilgrims	Scholars and students	General tourist	Score
Sankasya	2	1	1	4
Shravasti	4	4	2	10
Piprahwa (Kapilvastu)	2	2	1	5
Kushinigar	4	2	2	8
Sarnath (museum)	4	4	4	12
Bodh Gaya (museum)	4	4	4	12
Rajgir	4	2	1	7
Nalanda (museum)	2	4	4	10
Vaishali (museum)	4	2	1	7

LEGEND

Interest level

4 Great 2 Moderate 1 Slight

FIGURE I-3. MATRIX OF VISITOR INTEREST.

* Scholars and students, who most value the complexity of currently excavated ruins as well as the presence of museums and artifacts.
* General tourists, for whom the most important factors are convenient access to the sites, their visual quality, and the fascination of their story. To rate most highly, the attraction of the site had to be so great as to draw foreign tourists, or domestic tourists from such a distance as to require an overnight stay in the vicinity.

Sarnath and Bodh Gaya were rated most highly, with Nalanda and Shravasti ranking next [Fig. I–3]. It was decided that Sarnath [Figs. I–4 and I–5] would be the first project, with a later study for Bodh Gaya. Because of Bodh Gaya's proximity to Rajgir and Nalanda, that study might best be done on a regional basis, to include the latter two sites.

In January 1988, an international design team conducted a two-week, on-site, intensive study of Sarnath. The team was composed of Landscape Architecture faculty and students from the University of Illinois, together with landscape architects from Japan and an interpretive consultant from the U.S. National Park Service. In addition to the site inventory and analysis performed during the visit, the team met with local officials from the Mahabodhi Society, the Tibetan Institute of Buddhist Studies, the Town and Country Planning Organisation, the Department of Forestry and Wildlife, the Archaeological Survey of India, state and national government tourism officials, and heads of local villages.

FIGURE I-5. ARCHAEOLOGICAL SITE, SARNATH.

During the evaluation of the site, the existence of a fourth major visitor group became obvious, that of the local users, who merited consideration due to their great number. The local visitor group at Sarnath is comprised of recreation-seekers from Varanasi and the local villagers who produce and sell souvenirs to the tourists. It grew apparent that recreational activities were a serious source of distraction and conflict for the other visitor groups.

The goals for the project were determined from the meeting discussions and the site evaluation. These are:

* To tell the story of the Buddha's life, and the significance of Sarnath.
* To preserve and enhance existing site resources.
* To accommodate and respond with sensitivity to increased visitor use.
* To resolve site use conflicts.
* To provide opportunities for the thoughtful growth of supporting facilities.
* To make development compatible with existing village life.

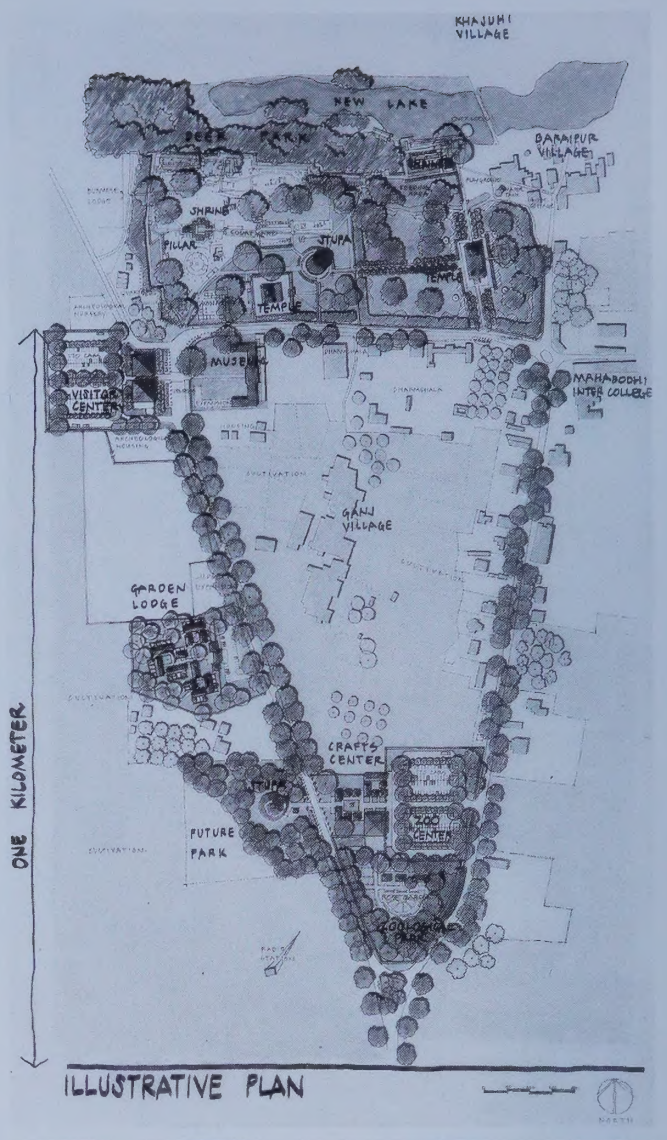

FIGURE I-6. PLAN PREPARED DURING SITE VISIT.

With these goals, the team prepared a conceptual master plan [Fig. I–6], which was presented to local officials in Varanasi and to government officials in New Delhi. After returning to the University of Illinois, the team presented the conceptual master plan to its remaining faculty and student members for reevaluation, together with suggestions from the presentations in India, which were incorporated into the planning and design process. This document is a result of that process.

TWO THE HISTORICAL, PHYSICAL, AND CULTURAL CONTEXT OF SARNATH

The origins and development of the Buddhist site at Sarnath and its geography and situation.

THE HISTORICAL DEER PRESERVE

Throughout history, great leaders have arisen in one place or another who have affected greatly the religious and political development of the human race. By their actions and teachings, these leaders have inspired the perpetuation of their ideas and the stories of their lives. The places where these leaders lived, worked, and died frequently have become centers of attraction and visitation for their followers and admirers, as well as for other interested observers. One of these places is Sarnath, in India.

At Sarnath occurred one of the most momentous events in religious history. It was here, in the Mrigdava—the royal deer preserve near Varanasi—that Siddartha Gautama first preached his Way to Enlightenment, some 550 years before Christ. Here he set in motion a wheel of thought, a "Wheel of Law," the truth of which, his followers believe, has changed the course of cosmic history. The message he preached at this place was carried by his followers throughout India, China, Japan, and southeast Asia. Siddartha Gautama became known to his followers as the Lord Buddha. His teaching, first heard at Sarnath, became known as the Gospel of Buddha, the foundation of Buddhism.

It undoubtedly was to be expected that, from the first day his message was heard at Sarnath, followers of Gautama Buddha would gather at the place to hear his words, to discuss his teachings, and to meditate on the truth he had revealed. The Buddha himself resided here for a time, according to tradition, because he valued the proximity to Varanasi, holy city of Shiva and heart of Hinduism, and the opportunities it provided as a center for trade and learning. Many followers from Varanasi sought him out at the deer preserve, where he and his followers lived in huts built from what the landscape offered.

After the departure of the Buddha from the deer preserve to continue his mission of teaching, and after his death, the community of his followers at Sarnath increased in number and stability. His order of monks and nuns maintained its presence here and erected monasteries to house its members. The place had become a pilgrimage destination even in the Buddha's time, since he had encouraged his followers to visit the places of his birth, his enlightenment, his first teaching, and, eventually, of his passage from this life. By the third century B.C., the deer preserve at Sarnath was a major center of Buddhist learning and devotion.

It was in the third century B.C. that Sarnath was visited by the emperor Ashok the Great. Himself a convert to Buddhist teachings, Ashok was committed to using the might of his imperial power to promote and establish Buddhism throughout his empire, much as Constantine the Great would do later for Christianity. Ashok was on pilgrimage to the four holy places of the Lord Buddha when he came to Sarnath.

At the deer preserve, he erected two stupas—large mounded structures of earth and stone. One, the Dharma-rajika [Fig. II–1], contained a portion of the Buddha's remains; the other, the Dhamekh [Fig. II–2], indicated the place of the Buddha's first sermon. A third stupa, the Chaukhandi [Fig. II–3], he erected nearby to mark the place of the Buddha's meeting with his first disciples.

Ashok also erected a column, 15 meters in height and surmounted by four lions—one facing each direction—bearing a great wheel on their shoulders [Fig. II–4]. These "Ashokan Pillars" were built by the emperor throughout India to announce and promote Buddhism. At Sarnath, Ashok had the column inscribed with a warning to the local religious community against schism or heresy, indicating the existence of a large and influential community here at the time. This pillar, with its four-lion capital, was recognized as the symbol of the emperor and is today the national symbol of India.

Through the following centuries, the religious community at the deer preserve thrived and grew. Increasing devotion to the Buddha eventually overcame his proscription of images of himself, and many appeared at the deer preserve, including, in the first century A.D., the first of him in a standing position.

In the fifth and seventh centuries A.D., Sarnath was visited by travelers from China. These men, Fa-Hian and Hiuen Tsang, both left records of their journeys, reporting that the deer preserve was a very built-up place with two large temples, several religious buildings and monasteries, the great stupas, and the stone pillar of Ashok "glistening like a mirror in the sun." Hiuen reported the presence of 1,500 monks on the site. The entire community at the deer preserve, including monks, nuns, pilgrims, and devotees, numbered some 6,000 at its peak of influence and activity, according to a Buddhist scholar at Sarnath.

As Buddhism spread throughout southeast Asia, so did it decline in India. Political upheaval and invasions over the centuries took their toll at the deer preserve. Though still in use as late as the end of the twelfth century, the deer preserve was already in decline, as indicated by contemporary history and by the condition of the artifacts and ruins uncovered in the nineteenth century. After at least two previous destructive assaults and subsequent rebuilding, the community was overrun for the last time by invaders in 1194. The residents were killed and the entire complex of buildings and memorials was destroyed. The demolished buildings were covered by the dust and debris of time until only the stupas were visible above the ground.

The deer preserve remained in this state for the next six hundred years until, in 1794, the raja of Varanasi opened and demolished the Dharmarajika Stupa so that its bricks could be used in the construction of a marketplace. The demolition attracted the attention of the British Resident in Varanasi, who notified the press of the ruined stupas at Sarnath. The site became the focus of archaeological interest and digging activity until, in the twentieth century, most of

the structures once present in the deer preserve had been exposed.

Today, the ruins of the Monastery of the Turning-of-the-Wheel-of-the-Law, the shrines of the Lord Buddha, the Ashokan Pillar, and the great stupas all stand in mute witness to the vibrant community that once lived here. The Dhamekh Stupa now commands the landscape, receiving the constant devotion of monks, nuns, and pilgrims. Nearby, and beyond the environs of the archaeological ruins, several modern Buddhist temples, monasteries, schools, and lodges attest to the strong and continuing Buddhist presence at Sarnath.

The commendation of the Buddha to believers, that they visit the places of significance in his life, is as meaningful today as it was 2,000 years ago. The large number of pilgrims always in the vicinity of Sarnath, the increasing number of tourists, Buddhists or otherwise, the steadfast devotion of the monks, all attest to the merit attached to recollection of the Buddha's deeds and to the visitation of the places that witnessed these deeds. Sarnath shares preeminence in religious history with Bodh Gaya, site of the Buddha's enlightenment; Kushinagar, site of his attainment of Mahaparinirvana, his passage from earthly life; and Lumbini, his birthplace. As the place where the Buddha first preached his message, Sarnath has always been, and is so today, revered by the men and women who respect his teachings.

FIGURE II-1. REMNANTS OF THE DHARMARAJIKA STUPA.

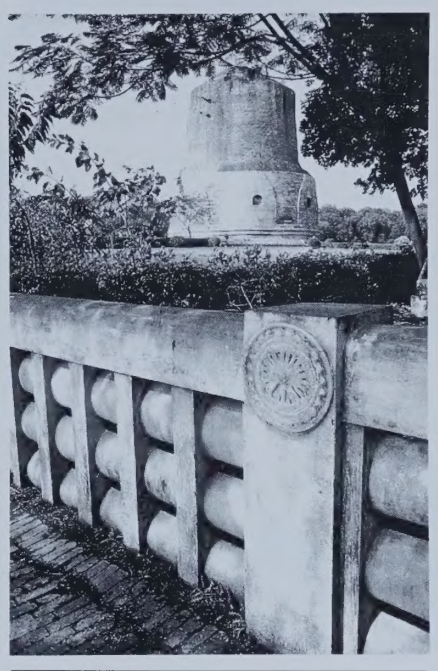

FIGURE II-2. DHAMEKH STUPA.

FIGURE II-4. CAPITAL OF THE ASHOKAN PILLAR.

THE PHYSICAL ENVIRONMENT

Sarnath is today a district of the city of Varanasi, in the state of Uttar Pradesh [Fig. II–5]. It is situated between the steep-sloped mountains of the Vindhyan Scarplands and the northern Avadh Plains. Varanasi and Sarnath lie in the Gangetic Plain, 200 meters above sea level. The Buddhist site at Sarnath, 7 kilometers northeast of the center of Varanasi, maintains roughly a 9-meter vertical variation in elevation throughout due to erosion, excavation, and the natural lay of the land.

The climate of Sarnath, like most of India, revolves around the seasonal monsoon. The monsoon arrives in mid-June, carried by air masses formed in the Bay of Bengal that rush inland to cool the super-heated land surface. The annual monsoon brings 100 to 200 centimeters, or more, of precipitation to the Sarnath region. The landscape is totally dependent upon this hydrologic cycle to regenerate the natural systems of all plants and animals.

Sarnath experiences extreme fluctuations in seasonal temperatures due to the presence or absence of the monsoon. During the dry winter months, from November to March, the temperature ranges from 5 to 15 degrees Centigrade. It rises through the short spring, which begins in April, and into the summer months of May and June, which are the hottest and driest, with temperatures ranging from 30 to 45 degrees Centigrade. The wet season's cool

FIGURE II-3. CHAUKHANDI STUPA.

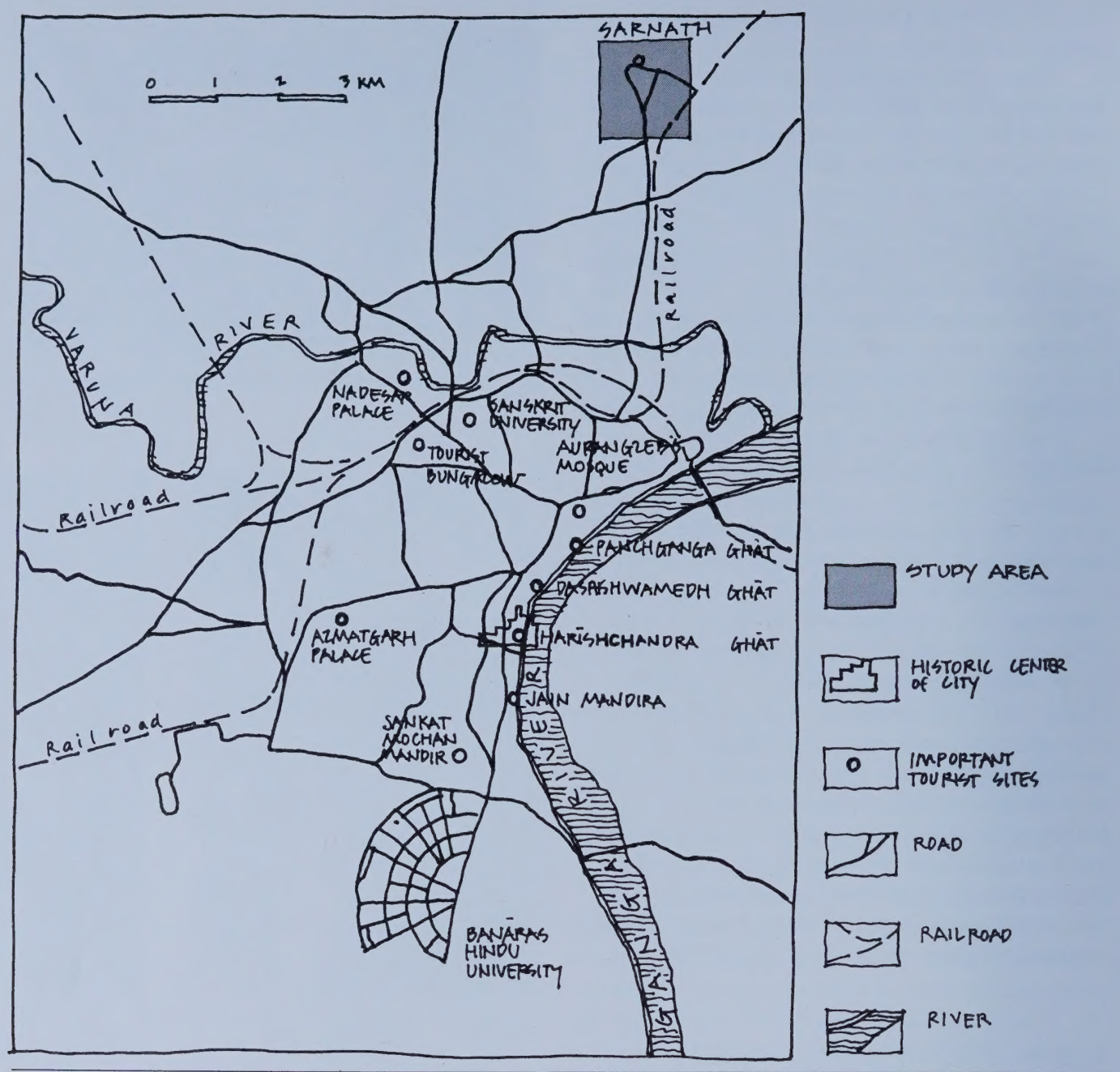

FIGURE II-5. MAP OF VARANASI SHOWING LOCATION OF SARNATH PROJECT SITE.

rain persists until mid-August, followed by the short autumn in September and October.

The vegetation at Sarnath is dependent upon its situation in the dry sal forest, which is in the heart of the northern dry tropical deciduous forest region. Due to its position in the Gangetic Plain, which is subject to annual seasonal flooding of low areas, and due to the intense population pressures of centuries, the regional forest type does not occur naturally around Sarnath. The dry sal forest association consists mainly of *Shorea robusta*, the sal; *Anogeisus latifolia*, the dhai; *Terminalia tomentosa*, the sain; *Bauhinia variegata*, the kachnar; and the *Acacia* species—the babul, babur, and khair.

In addition to these species, many others are cultivated in the landscape of the Varanasi region. In the urban area of Varanasi, large bodhi trees, *Ficus religiosa*, can be found growing up through the stone paths and on buildings [Fig. II–6]. Larger city homes have walled gardens filled with colorful varieties of flowering trees, shrubs, herbaceous perennials, and annuals. These reflect the influence of English gardens of the late nineteenth century. Beyond the urbanized area lie cultivated lands dotted by villages. The landscape is unforested, rich with the greens and yellows of mustard, sugarcane, and rice [Fig. II–7].

Sarnath is beyond the generally built-up area of Varanasi. The roads in the area are lined with *Mangifera indica* (mango), and mangroves are common beyond them [Fig. II–8]. Many *Ficus bengalensis* (banyan) and *Azadirachta indica* (neem) are also present. The landscape of the site under study varies by location and is discussed in the section dealing with each location. (See Appendix A for a list of plants found at Sarnath.)

THE NATURE OF TOURISM IN INDIA

National Perspective

India has had prolonged and extensive experience with tourism, her shores long teeming with traders from all over the world and her great cities attracting adventurous travelers. Today her culture and wealth of historical and archaeological sites draw tourists seeking pleasure, recreation, and education. Travelers most often visit the cities of Bombay, Delhi, Agra, and Varanasi, in that order. The most-visited state is Uttar Pradesh, with Varanasi and Agra, location of the Taj Mahal.

Because of her rich religious heritage, much tourism in India is rooted in pilgrimage. The ancient Hindu texts, the Vedas, prescribe the tirath yatra, a tour of holy sites throughout India. Likewise, the followers of Gautama Buddha traditionally have made pilgrimages to the eight significant sacred sites in India related to his life and death.

India presently receives a slight 0.3 percent of world tourism volume, yet this translates into 18 billion rupees in tourist spending. British nationals once comprised the largest group of foreign tourists, but since the early 1970's, they steadily have been overtaken in number by other Europeans and by North Americans. Japanese make up an increasing number, and Indian citizens also engage in religious, educational, and recreational tourism. According to some studies, domestic tourists outnumber the foreign by six to one.

The Indian government made its first organized effort to promote tourism in 1945, with the appointment of the Sargent Committee. Recognizing that tourism is a service industry, and that it provides important employment opportunities for local populations, the committee recommended a governmental organization for its promotion. Since that time, various organizations have been formed, most recently the Ministry of Tourism in 1966. Eight years later, India received 423,000 visitors, then 0.15 percent of the world market.

Tourist travel in India tends to follow seasonal patterns, peaking between October and January, which is the cooler part of the dry season. This peak is opposite that of the European tourist season, and approximately 50 percent of all tourists arrive during this time. Tourists stay an average of twenty-nine days, considerably longer than in most countries, but, peculiarly, the percentage making a return trip is quite low.

Most tourists experience India as part of an organized tour group. Most arrive by air. An overland journey into India is very uncommon, in contrast with Europe and North America, where the automobile is the primary mode of transportation.

Available tourist information includes foreign-published guide books and pamphlets distributed by the Ministry of Tourism. In order to further the dissemination of relevant literature, tourist information offices have been opened by the ministry in many cities, although much that they offer could be more consistent and up-to-date, and could provide illustrations and accurate maps.

FIGURE II-6. *FICUS RELIGIOSA.*

FIGURE II-7. TYPICAL RURAL LANDSCAPE.

FIGURE II-8. MANGO TREE-LINED ROAD.

The Buddhist Circuit in Uttar Pradesh and Bihar

Located in the states of Uttar Pradesh and Bihar are seven sacred places related to the Buddha's life. In addition to the major sites—Bodh Gaya [Fig. II–9], Sarnath, and Kushinagar [Fig. II–10]—there are the locations of the Buddha's four great miracles: Shravasti, where he converted himself into a thousand forms; Rajgir, where he calmed Malagiri, a murderous royal elephant; Vaishali, where he received the gift of honey from a monkey; and Sankasya, where he descended from heaven attended by Brahma.

Astamahapratiharya, a pilgrimage to these sacred places as well as to the Buddha's birthplace at Lumbini, has been prescribed since the time of the emperor Ashok. Although some Buddhist pilgrim groups make a circuit of these sites, the journey between them is lengthy and must be made by air or rail, since an automobile trip requires a difficult two-week journey. It is

FIGURE II-9. BODH GAYA.

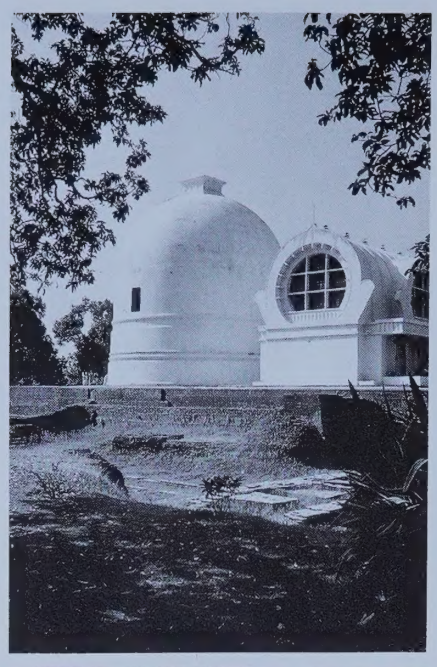

FIGURE II-10. KUSHINAGAR.

possible that, with a resurgence of tourism, these sites again could be linked effectively by a revival of the "Great Indian Rover" rail circuit.

Sarnath itself has a long history of tourism in the form of pilgrimages. In 640 A.D., the Chinese traveler Hiuen Tsang made a well-documented visit to the site. Today, religious visitors to Sarnath come predominantly from southern Asia and include those from Japan, Burma, Sri Lanka, China, Tibet, and Thailand. It is one of the most developed Buddhist sites in India, undoubtedly because of its proximity to Varanasi; and it receives more visitors than any other Buddhist pilgrimage site in Uttar Pradesh or Bihar.

Tourism in Varanasi and Sarnath

Varanasi is the fourth most-visited city in India. This is significant since it is a non-entry port city for international travelers. Originally called Kashi, or "City of Light," it is arguably the world's oldest living city. Today it is an intensive layering of development atop the ghats—broad stairs along the River Ganga's western shore [Fig. II–11]. Considered the holiest of Hindu cities, it draws pilgrims from throughout India to bathe at the ghats, in the sacred waters of the Ganga.

For Hindus, it is most auspicious to die in Varanasi or to have one's ashes scattered onto the Ganga. Boatloads of tourists slowly drift on the river at sunrise to watch pilgrims at their ritual baths [Fig. II–12]. A walk through the twisting, narrow alleys of the old city [Fig. II–13] reveals temples everywhere, from the gilded dome of the Golden Temple of Vishvanath to tiny wayside shrines tucked into the walls. The city is saturated with ancient religion, providing a rich experience even for the non-Hindu tourist.

Sarnath generally receives visitors who primarily are visiting Varanasi. They travel to Sarnath mainly by road, using overcrowded city buses, taxis, rickshaws, or tour buses. Though seldom used by foreign tourists, the nearby railroad station provides a connection to Varanasi and beyond [Fig. II–14]. It well could be utilized as the terminus for a rail shuttle service from Varanasi, providing alternative transportation for local visitors as well as nonlocal.

Approximately 131,000 tourists visited Sarnath in 1973, according to hotel registration counts. Based upon 1970-to-1973 figures, the Ministry of Tourism projects a 15 percent growth rate in foreign and domestic visitors per year. By 1991, the expected number of foreign tourists is 710,000, with domestic tourists increasing to 609,000.

An important consideration in the planning of tourist development at Sarnath is the quality and availability of accommodations in the area. If tourism at Sarnath is to grow as anticipated, the capacity of existing overnight accommodations must be increased. According to the 1976 Town and Country Organisation report on Sarnath, an additional 100 beds will be needed by 1991.

Although there are a number of five-star hotels conveniently available in Varanasi, Sarnath has only modest to spartan accommodations. Dharmshalas, traditional pilgrim lodgings operated by various religious groups, and the state government's tourist bungalow provide plain accommodations suitable for the pilgrim or student traveler. Because of the unimposing nature of Buddhism and the significance of the archaeological monuments, the construction of high-rise, five-star hotels in Sarnath is inappropriate. Their presence would compete visually with the site features, particularly the Dhamekh Stupa, and be an unwarranted violation of the Archaeological Survey's existing building-height restriction.

Other long-term visitors, such as Japanese pilgrims and scholars, who are accustomed to a higher quality of accommodation than is currently offered, would be well served by the addition of lodging that offers the comfort of a five-star hotel, but with architecture reflecting the simple, rural character of Sarnath. In addition to the provision of adequate lodging in the area, a restaurant observing international standards of operation would serve well the increasing number of tourists.

Occasions such as the biennial visits of the Dalai Lama, Buddhist monk and priest-king of Tibet, necessitate additional temporary accommodations at Sarnath. Approximately 20,000 pilgrims congregate at the site during this peak event. Currently, many of these visitors are sheltered in temporary tent cities raised on neighboring religious properties. Such gatherings not only have a drastic impact on the site itself, but their concentrated pressure on the surrounding area also presents a critical sanitation problem. Additional temporary campgrounds dispersed throughout the area should be provided for these peak-use periods.

In addition, the image of Sarnath as a tourist destination should be enhanced. Although Sarnath is best known for the Buddhist archaeological ruins, the nearby Hindu temple of Shiva, Saranganath, also draws a large

FIGURE II-11. GHATS ALONG THE RIVER GANGA.

FIGURE II-12. RITUAL BATHING.

FIGURE II-13. NARROW LANES IN VARANASI.

FIGURE II-14. SARNATH RAILROAD STATION.

number of pilgrims to festivals in July and August. With the substantial Hindu presence in the area, it is possible that Sarnath could be promoted effectively as an ecumenical religious center. The life and example of the Lord Buddha certainly appeals to individuals of many religions, as well as to religious pilgrims of many beliefs.

THE EXISTING DEVELOPMENT PLAN FOR VARANASI AND SARNATH

The Town and Country Plan

Sarnath, on the fringe of Varanasi, is influenced strongly by pressures from its growing urban core. According to the Varanasi master plan, Sarnath is zoned as a regional park. Landuse includes low-density residential and agricultural development. Heavy industry is not permitted [Fig. II–15]. It is essentially an agricultural landscape, which includes villages, scattered residences, monastery complexes, and related Buddhist institutions.

In 1976, the Town and Country Planning Organisation produced a development plan for the improvement of tourist facilities at Sarnath [Fig. II–16]. This was prompted by a projected growth rate in tourist arrivals of 150 percent between 1981 and 1991. The primary goals of this plan were the augmentation of the basic existing tourist infrastructure, and the interconnection of the Chaukhandi and Dhamekh Stupas, creating a more cohesive experience of the site.

The plan establishes a visual and pedestrian link between Chaukhandi and the archaeological ruins with a shade-tree-lined pedestrian walk on the west side of Ganj village. To discourage vehicular traffic between the two sites, a passenger drop-off and vehicle parking area is provided at Chaukhandi, and the current traffic pattern is rerouted in a loop to the west and north.

The plan also develops facilities near the Chaukhandi Stupa to encourage its use as a starting-point for the tourist experience. A tourist reception center, shops, refreshment kiosks, and a paved plaza area are proposed here. Additionally, a trailer camping lot would be provided with space for twenty-four vehicles and trailers, although this form of travel does not seem popular in India.

The plan recognizes that the entire expected increase in visitors need not be accommodated at Sarnath alone. Many tourists would be expected to lodge in Varanasi, where there is an abundance of privately managed hotels for travelers of all economic levels. Assuming that only 10 percent of the visitors to Sarnath need to be accommodated near the site, the plan proposes a 100-bed lodge near Chaukhandi, accommodating middle-and high-income groups. The lodge would be formed by modules grouped around small courtyards and could be developed incrementally, permitting expansion by private individuals. Adjacent to it would be an international-standard restaurant accommodating 150 people.

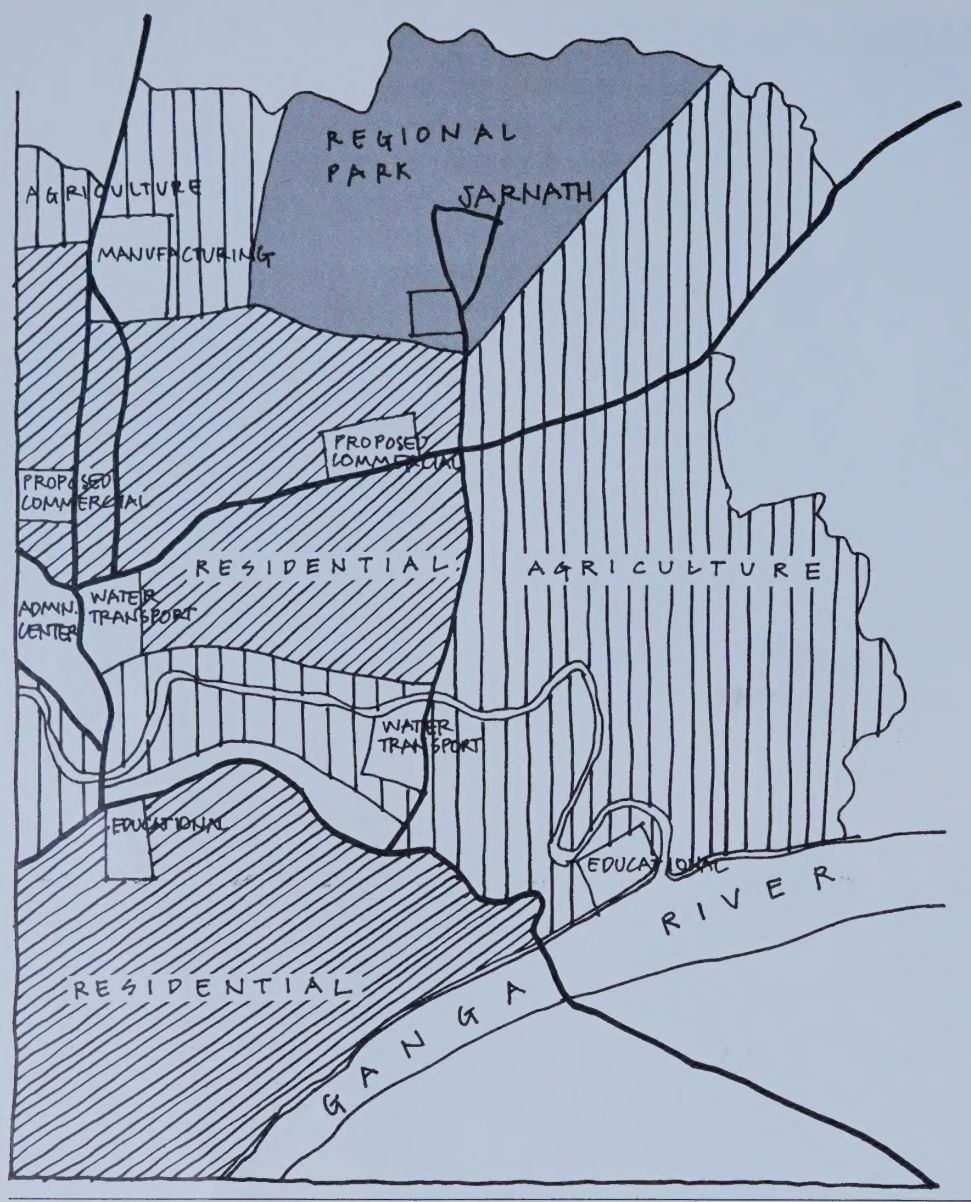

FIGURE II-15. VARANASI REGIONAL LANDUSE MAP.

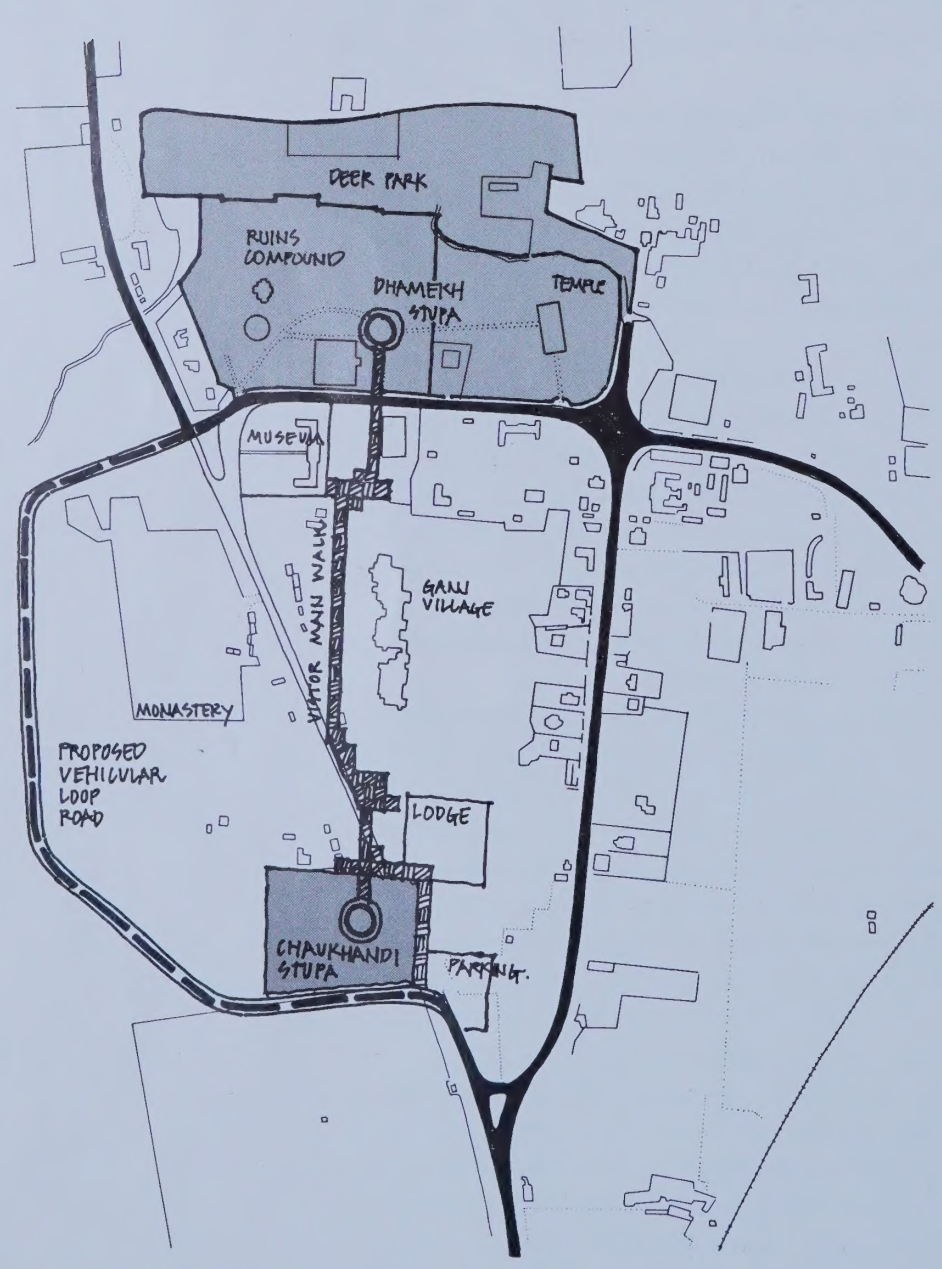

FIGURE II-16. PROPOSED TOWN AND COUNTRY DEVELOPMENT PLAN.

The plan proposes to make the area more attractive to foreign tourists by removing much of its current organic development. The existing infrastructure of Ganj and Baraipur villages would be enhanced and unattractive roadside development, such as tea stalls, temporary vendors, and squatters, would be removed from tourist areas. In order to discourage real-estate speculation and to protect the economic base of the area, the plan recommends that the state purchase remaining undeveloped land to keep it in agricultural use. To reduce pressure on the site during the peak season, the Town and Country Plan suggests prolonging the current tourist season by offering off-season incentives for travel, such as reduced tour and lodging rates.

Discussion

The Town and Country Plan creates a strong link between the Chaukhandi and Dhamekh Stupas, and adequately addresses circulation problems on the site. It also prescribes facilities that are sorely needed for tourism development of the area. It does not, however, address issues such as enhancement of the religious nature of the site and preservation of the ruins. Further, it is a high-impact plan, inappropriate to the character of the site.

Although efforts were made to avoid destruction of Ganj village, the plan pressures it severely by taking much of its adjacent agricultural land. With their economic base of agriculture removed, the residents of Ganj likely would turn to commercial activities. The proposed pedestrian path near the settlement's western edge would accelerate this change. Further, the presence of organic roadside development is an integral part of the Indian landscape, and foreign tourists should not be insulated unnaturally from its reality. They may, in fact, find the experience of the road colorful and exciting.

The conceptual master plan proposed herein anticipates a minimal overall impact, yet it seeks to achieve many of the same goals as the Town and Country Plan.

THREE ANALYSIS AND EVALUATION OF SARNATH

The features and quality of Sarnath, and their ramifications in master planning for tourism development.

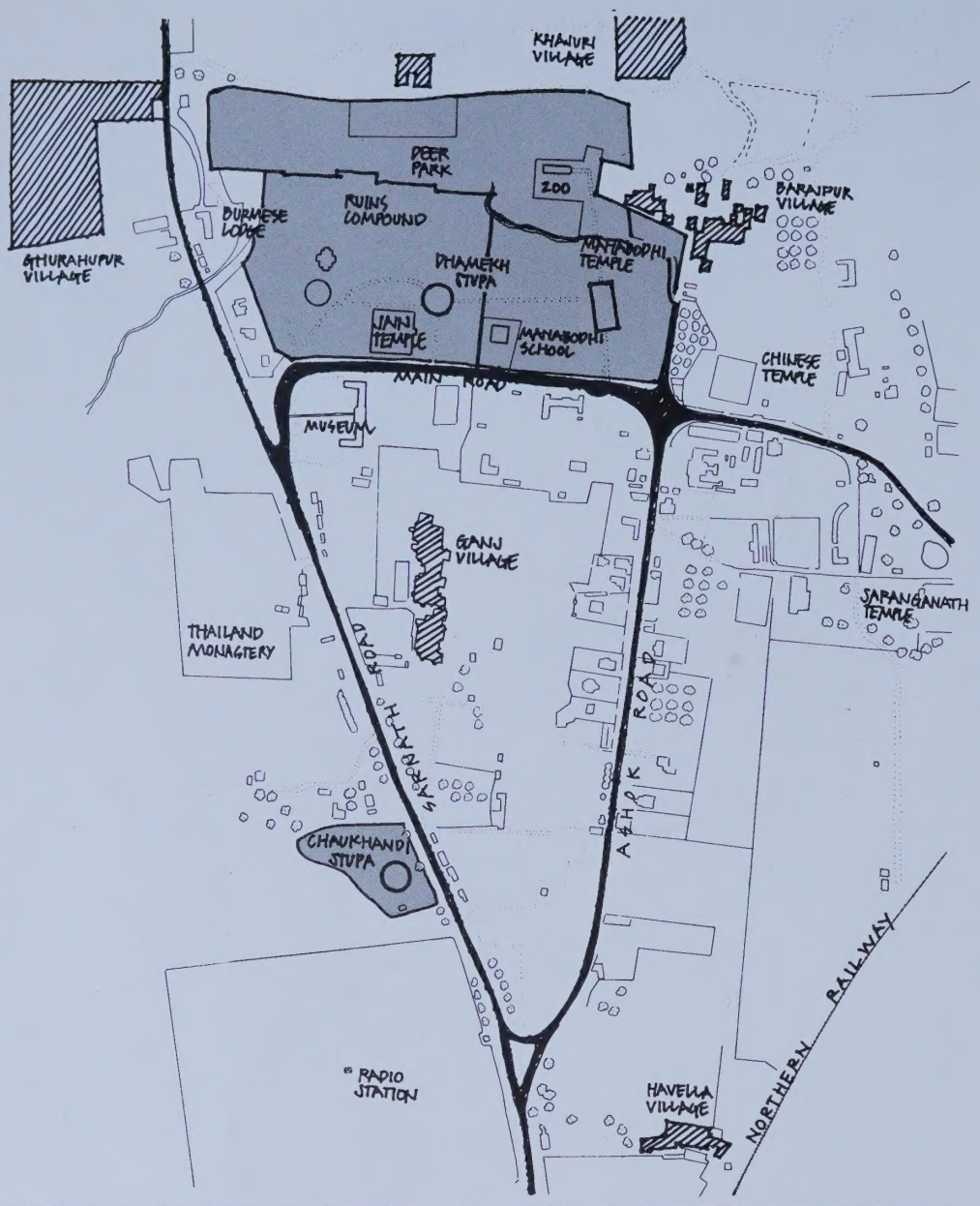

FIGURE III-1. SITE COMPONENTS.

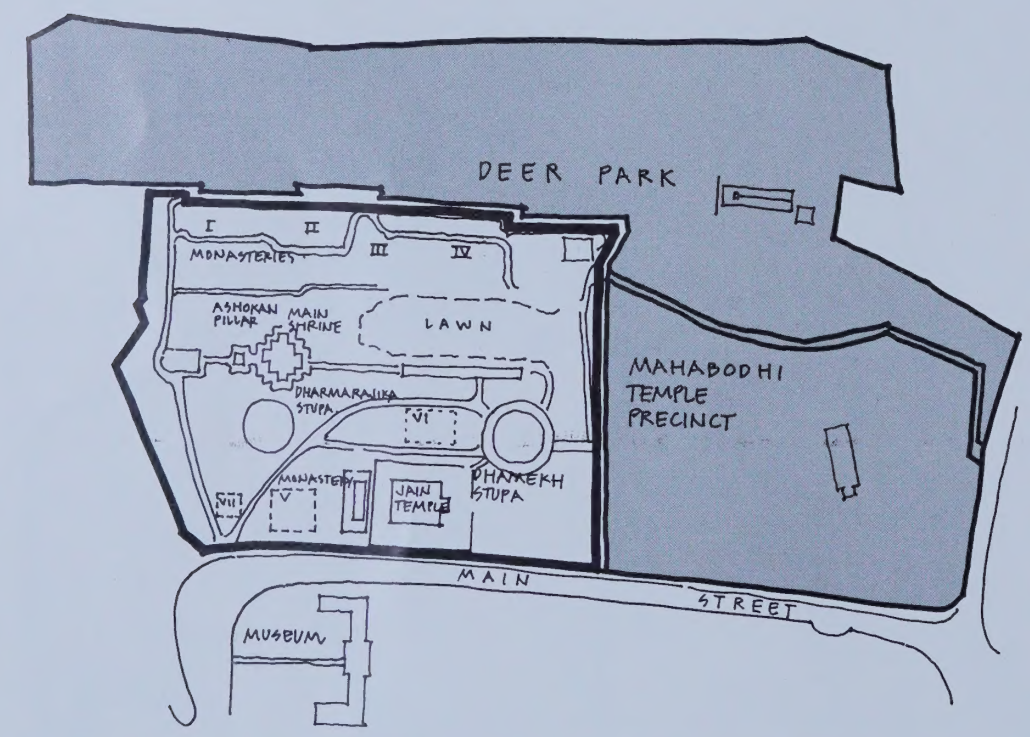

FIGURE III-2. EXISTING CONDITION OF THE RUINS COMPOUND.

Sarnath, as considered here, includes the Buddhist archaeological ruins, the Mahabodhi Temple Precinct, the Deer Park, the neighboring villages, and the roadways. The "principal site" refers to the ruins, the temple precinct, and the Deer Park, the areas with the most intense visitor use [Fig. III–1].

THE RUINS

The ruins at Sarnath are more than significant archaeological discoveries. They are, in fact, all that remain here of the historic Buddhist presence. Built on the site of the Buddha's first sermon, they must be seen in the context of religious history and present devotional activities.

The ruins date to the Mauryan period of the third century B.C., 300 years after the Buddha's death. They occupy two sites located a kilometer apart and totaling 7 hectares. The larger area, the "ruins compound," is 6 hectares of the principal site and contains the majority of the ruins [Fig. III–2]. The second site, to the south on Sarnath Road, is 1 hectare and contains the Chaukhandi Stupa.

The Sites

The majority of the ruins compound has been excavated to a depth of 2 to 5 meters below the nearby street level. The ruins rise, or protrude, from an irregular grassy expanse [Fig. III–3]. Dry tropical forest trees form a border around the expanse that is especially heavy at the northern edge adjoining the Deer Park. Several immense trees provide sporadic areas of shade near the walks and on the perimeter [Fig. III–4]. Primarily neem trees, these specimens are underplanted with sanseveria and philodendron, giving a tropical effect to the scene. This effect is enhanced by the jungle-like atmosphere of the Deer Park enclosure and the western border.

The landscape of the compound is a study in light and shadow. No trees or shrubs are planted in the immediate vicinity of the ruins, leaving a large, centralized open space completely exposed to the brilliance of the sun. Beyond, the dense foliage of the boundary plantings offers to the eyes the dark relief of shade. Great drifts of neem canopies, floating above cushions of tropical plants, invite contemplation in their generous shade. The image of red-robed monks, encircled in the coolness of a neem or a bodhi, is as old as Buddhism [Fig. III–5]. Indeed, it is the serenity of this image that should be developed and maintained on the site.

The paths and intersections around the ruins generally are indicated by rectangular beds of brightly colored annual flowers and widely spaced solitary plantings of bougainvillea vines, supported into shrubs by metal frames [Fig. III–6]. These are tightly clipped into umbrella shapes, suggesting the ambience of a formal garden—incongruent and distracting within the general tranquility of the setting. The western

FIGURE III-3. RUINS.

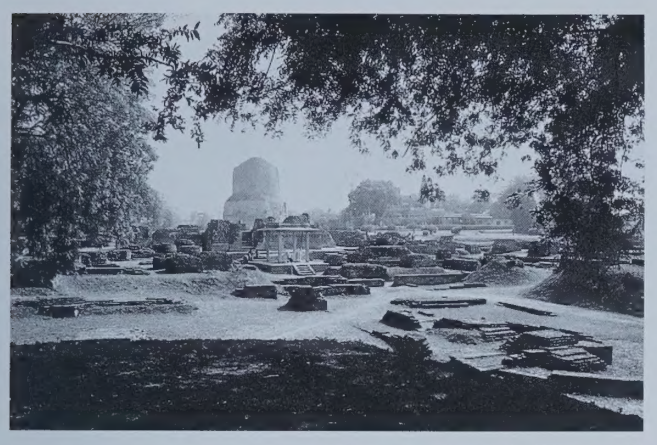

FIGURE III-4. SHADE TREES.

edge of the site, beyond the ruins, is maintained as a plant nursery under the canopy of the forested border.

The Chaukhandi Stupa site is a grassy area subdivided geometrically by a clipped privet hedge. Several large trees shade the area, with only the east side and the area immediately around the stupa exposed to full sun. A tall clipped privet hedge borders the east side along the road.

The artifacts visible in the ruins compound have been exposed by excavations of the last 200 years. They include the remains of two temples, six monasteries, and several stupas [refer to Fig. III–2, earlier]. The most conspicuous and imposing structures are those of the two still-erect stupas: Dhamekh at the principal site, and Chaukhandi to the south.

The Dhamekh Stupa is a solid cylindrical tower measuring 34 meters in height. The circumference of its base is 29 meters. The structure is mainly brick, partially covered with ornate fifth-century stone carvings, among the finest extant examples of Guptan stonework. Dominating the site as the only standing monument, it is the primary focus of religious and visitor activity. Around its base is a concrete walkway used by pilgrims and monks for the ritual of circumambulation—the circular movement by a devotee around an object of veneration [Fig. III–7]. Abutting the southeast portion of the walkway are concrete steps used for candle and incense offerings to the Buddha [Fig. III–8].

The Chaukhandi Stupa marks the place of the Buddha's meeting with his first disciples. It is a brick structure consisting of three square

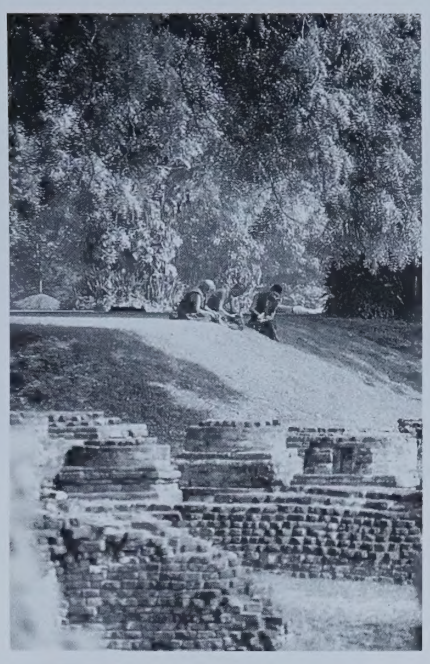

FIGURE III-5. MONKS IN THE SHADE OF NEEM AND BODHI TREES.

FIGURE III-6. BOUGAINVILLEA VINES SUPPORTED BY METAL FRAMES.

FIGURE III-7. CIRCUMAMBULATION AT THE BASE OF THE DHAMEKH STUPA.

FIGURE III-8. CONCRETE STEPS FOR CANDLE OFFERINGS.

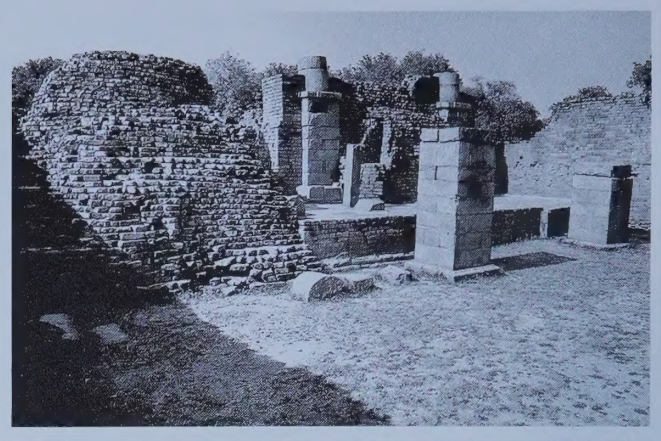

FIGURE III-10. MAIN SHRINE.

FIGURE III-9. STUPA COURTYARD NEAR THE MAIN SHRINE.

FIGURE III-11. APSIDAL CHAPEL.

terraces, each about 3 meters tall. It is now covered by soil and vegetation, and topped with a stone tower. The tower was erected by the Moghul emperor Akbar in 1588 to commemorate a visit here by his father, Humayun. Today, visitors frequently climb the stupa to the tower, 23 meters high, seeking the splendid panoramic view of the surrounding countryside, including the Dhamekh Stupa, agricultural fields, and, to the south, Varanasi.

A third, despoiled stupa, the Dharmarajika, is west of the Dhamekh Stupa, at the principal site. Once standing 30 meters tall, it was dismantled in 1794 by Jagat Singh, raja of Varanasi. All that remains today is a low soil mound encircled by the foundation.

In addition to the stupas are many monasteries and a number of shrines and temples. Each of these structures was used in worship and commemoration of the Buddha. Only their foundations remain. The most substantial of these remnants is that of the Main Shrine, located north of the Dharmarajika Stupa. It is the most recent memorial structure built on the traditional site of the Buddha's hut during his residence here. Facing east, it is a large cube of brick and plaster, ornamented with carved stone. It dates to the Gupta period of the sixth century.

Directly east of it is a large courtyard, a meter below the level of the Main Shrine. On its perimeter are lines of small shrines and devotional stupas [Fig. III–9]. Dating to the second century B.C., it originally functioned as a plaza for the Main Shrine. Historically, it was entered from the east, down a short flight of stairs, after ritual purification in a small brick-lined water tank at the entrance. The courtyard terminates at the Main Shrine in a large, hard-surfaced rectangular space which once had thin brick walls supporting a light roof [Fig. III–10]. Abutting the shrine is a brick platform, suggestive of a podium, leading archaeologists to believe the space was a lecture hall.

A large temple, called the Apsidal Chapel, is located west of the Main Shrine [Fig. III–11]. Dating to the Mauryan period, it is built of overlarge bricks and represents one of the earliest examples of apsidal construction. Remnants of the Ashokan pillar also stand to the west of the Main Shrine, sheltered by a modern pavilion of neo-Moghul architecture [Fig. III–12]. Once a commanding presence here, the pillar was the standard on which rested the symbol of Ashok—the four-lion capital.

Many minor artifacts are located about the compound, with a concentration of small stupas and shrines in the courtyard of the Main Shrine. The stupas date from the tenth to the twelfth centuries and range to 1.5 meters in height. Most were built by devotees to commemorate their pilgrimages. A few, however, are dahtugarbha—containing the relics of Buddhist saints.

In addition to the ruins, three modern structures stand on the site. One is the Jain Temple, commemorating the eleventh Jain Patriarch. It was built adjacent to the Dhamekh Stupa in 1824. The other is the former Brahmanical sculpture shed, which once displayed Hindu and Buddhist sculpture. Today it is primarily used for storage and as a picnic shelter. It adjoins the Jain Temple on the west. A small building near the Deer Park and zoo area houses the public restroom facilities.

FIGURE III-12. REMNANTS OF THE ASHOKAN PILLAR.

FIGURE III-13. MONKS CIRCUMAMBULATING AND CHANTING.

Another structure closely related to the ruins compound is the Archaeological Museum, located south of the principal site at the southeast corner of Sarnath Road and Main Street. Opened in 1910, the museum houses many of the artifacts excavated at the principal site, including the lion-capital of the Ashokan pillar, the Sarnath Buddha in the "Turning-the-Wheel-of-the-Law" pose, and the Standing Buddha of Sarnath. Numerous smaller objects, both Buddhist and Hindu in nature, are exhibited in four large galleries. The museum is open to the public six days weekly, Saturday through Thursday.

Preservation of the Ruins

The ruins compound, the Chaukhandi Stupa, and the Archaeological Museum are administered by the Archaeological Survey of India, mandated by the government to protect and manage India's archaeological treasures. At Sarnath, physical protection of the ruins compound is limited to fences and signs. Along the southern boundary stands a brick wall 1.5 meters high. The other boundaries have tall wire fences. Signs are displayed near critical areas stating, in English and Hindi, that the ruins are off limits to foot traffic. These evidently have little effect, judging from the number of trails threading through the ruins.

Along with the physical barriers and warnings, the grounds are patrolled by personnel of the Archaeological Survey, who enforce regulations and answer questions. They open the gates daily from early morning to early evening. The survey intends no future excavation or restoration work at the compound, now that partial restoration of the Dhamekh Stupa is completed.

Because the ruins are exposed to seasonal extremes of heat, moisture, wind, and humidity, as well as to human pressures from foot traffic, climbing, and sitting, signs of deterioration are apparent. Excavated areas are subject to varying degrees of erosion due to the intrusion of random footpaths. These expose the soil to the destructive effects of further traffic, rainfall, and runoff. The Chaukhandi Stupa, long exposed to the elements and to exploration, is seriously eroded. As a very popular element in the neighborhood landscape, it has a well-worn path up its slope to the tower.

A path network should be installed throughout the ruins and on the Chaukhandi Stupa in such a way as to protect the artifacts while still bringing the visitor as close as possible to view them. Ideally it should be free of contact with the ruins and present a sensible and appealling alternative to scrambling or climbing over the bricks. It is imperative that the exposed artifacts be protected and preserved so that visitors may continue to learn the greatness of this place. At the same time, visitors should be permitted a controlled opportunity to explore.

Visitor Perception and Activity

The ruins hold varying degrees of significance to visitors, whether they be the familiar local resident or the curious student of religion, history, or archaeology. However, it is to Buddhists, whether tourists or pilgrims, that the place is sacred—not merely an exposure of ancient brickwork and stonecraft, but a place where the Lord Buddha taught and lived, where countless ancestral believers have witnessed to their common faith. It is a place, to them, of serious reflection and worship, a temple under the trees, open to the sky.

On normal-use weekdays, visitors to the ruins compound are chiefly domestic tourists. Their use tends to be passive: sitting, ruin-exploration, and worship predominate. Grassy slopes beneath the shade trees north of the ruins are used for meditating, chanting, teaching, and studying [Fig. III–13]. Religious visitors circumambulate the Dhamekh Stupa throughout the day, particularly in early morning and late afternoon [refer to Fig. III–7, earlier]. The stupa and the Main Shrine also receive the devotion of prostrations, applications of gold leaf, and offerings of chants and prayers, candles, and incense.

On peak-use days, such as weekends and holidays, the ruins are less explored, but meditation and devotional activities continue. Visitors to other areas of the site stream through the ruins compound, however, often disturbing more quiet activity. For example, the large influx frequently causes heavy congestion on the circumambulation path about the Dhamekh Stupa. A deeper conflict occurs when picnickers cook meat, offending the beliefs of many who use the site.

FIGURE III-14. MAHABODHI TEMPLE.

Interpretation

An encounter with the ruins at Sarnath is an awesome experience, even if the visitor is simply viewing the expanse and intricacy of the brick- and stonework. The power and tranquility of the scene is further enhanced by the looming presence of the Dhamekh Stupa. If the visitor is generally aware of the history of the site and of the ruins, the encounter is as enriching as it is emotional. If not, the encounter is reduced to a confrontation with a confusion of bricks.

Presently, the compound is almost devoid of signs explaining and interpreting the artifacts. There is no defined pathway system to provide a coherent and interpreted passage through the ruins, or to allow a unified view of them. Unless the visitor arrives under knowledgeable guidance, no introductory information is freely or readily available to facilitate comprehension of the site, its place in history, or its relationship to the other sacred places of Buddhism. Introductory displays and literature in the major visitor languages, together with an extensive system of interpretive signs, are essential for a clear understanding and appreciation of the ruins.

The Archaeological Museum is an integral part of the visitor experience, displaying artifacts of artistic or historic significance. Presently, these are exhibited without explanation or interpretation; only dates of origin are indicated. Without a private guide, the visitor has no orientation to the exhibits, no information to aid understanding.

Interpretation is indispensable to the success of any museum. If the visitor is to acquire meaningful knowledge from a tour of the galleries here, it is essential that a provocative guide be published. Additionally, a comprehensive reorganization and redesign of the displays could contribute immensely to their interpretive value.

THE MAHABODHI TEMPLE PRECINCT

East of the ruins compound is the Mahabodhi Temple precinct, managed by the Department of Forestry and Wildlife. The department has developed and maintains this site as a park for local residents. In addition to the temple precinct, the department also manages the adjacent Deer Park, discussed in the following section.

The Site

Known as the Mulagandh Kuti Vihara, "the temple from which emanates the fundamental fragrance of religion," the Mahabodhi Temple dominates the expansive lawns of this area. Built in 1931 by the Mahabodhi Society, of Sri Lankan origin, the temple's lightly colored stone makes a striking appearance in the park-like setting [Fig. III–14]. Standing at the intersection of the main north-to-south and east-to-west pedestrian walks, its intricately carved spire towers over the visitor. Its distinctive presence rivals that of the nearby Dhamekh Stupa.

The temple's main entrance, from its south porch, faces a golden statue of the Lord Buddha, in the "Sarnath" pose, atop a white marble altar. The altar contains a portion of the Buddha's physical remains, removed from other ancient sites and brought to this temple.

The walls of the interior are embellished with delicately colored frescoes depicting scenes of the Buddha's life from his birth at Lumbini to his death at Kushinagar. Others depict his four major miracles and examples of his teaching and good works. In the southeast corner is a bookstall operated by the Mahabodhi Society, offering titles on the Buddha, Buddhism, and Sarnath as well as a limited number of souvenirs. It is an incongruent element within the temple's peaceful and reverent atmosphere, particularly when a visitor is haggling loudly with the seller over the price of an item.

The temple is surrounded by a terrace, which functions as the main pedestrian circulation node of the temple area. To the south is one of the two major entrances to the principal site; to the west, the Dhamekh Stupa and the ruins; to the north, the Deer Park; and to the east, a shrine commemorating the Buddha's first sermon to the five disciples. Six life-sized statues of the group sit beneath an immense and aged bodhi tree—said to be a third-generation offspring of the historic bodhi under which the Buddha attained enlightenment. On the lawn near each corner of the temple terrace are large, high-standing, colorful fountains.

The walks to the gate and to the stupa are lined by pollarded, umbrella-shaped ashok trees, clipped privet hedges, and flower beds of canna lilies—an intensively formal effect that is visually disconcerting within the context of the naturalized plantings elsewhere on the site [Fig. III–15]. Planted singly and symmetrically around the temple are royal palms, reminders of the tropical-island setting of the Mahabodhi Society's origin but certainly misplaced within this dry tropical forest area. Further, as a

FIGURE III-15. CLIPPED ASHOK TREES AND FLOWER BEDS.

FIGURE III-16. MAHABODHI ELEMENTARY SCHOOL.

recognized symbol of the Moghul period in India's history, the palms hearken to a time and culture unrelated to the development of the deer-preserve community.

The main walks divide the lawn into three sections, a large one to the east and, separated by the walk to the ruins compound, two on the west. The extreme edges of the lawn are bordered by a variety of forest trees, including the flame-of-the-forest, eucalyptus, and the banyan. A Department of Forestry nursery is installed under the border canopy.

Many specimen plants are located on the lawns, including several wide-spreading neem trees underplanted, as in the ruins compound, with sanseveria and philodendron. Ashoks are planted to create walls or boundaries between areas and appear either in rounded or columnar shapes. Bougainvillea is ever-present in vine or shrub-like form, and hundreds of potted flowering plants are displayed everywhere.

The perimeter landscape is suggestive of a tropical forest, heavy and lush, lightening in density to the plant specimens scattered on the lawn. Their airy, feathery appearance and shade are appealling to all visitors, offering refreshment for the body and the mind. It is the refreshment of this ethereal, tropical atmosphere that should be reinforced and developed, not the rigid and uncomfortable treatment of tightly clipped exotic trees and shrubs.

Color is a significant element in the area, evident in the flowers, vines, and shrubs as well as in the brightly painted fountains, the fences lining the walks, and the large billboard on the southwest lawn. The trunks of trees, such as ashoks and palms, are painted, providing color they lack naturally. The vividness of this unnatural color is extremely inconsistent, visually and symbolically, with the tranquil religious nature of the temple area, even though it may appeal to local visitors.

FIGURE III-17. PICNICKERS.

Also associated with the Mahabodhi Society, and located within the temple precinct, are the society's elementary school, a small religious building adjacent to the school on Main Street, and the site of the cremation of the society's founder. The school is located in the southwest corner of the precinct, facing the street, and appears to be in poor condition [Fig. III–16]. The schoolyard is separated from the precinct and the ruins compound by a privet hedge, which is frequently breached by the children seeking play on the lawns. The cremation site is a small plaza north of the temple, in the zoo area. A small memorial stupa stands in a well-shaded and peaceful space, effectively separated from its surroundings by a hedge and by its slightly higher elevation.

Visitor Activity

Standing as it does at the center of the major walkways, the temple is an unavoidable focal point. It is visited by both domestic and foreign tourists, and used by Buddhist pilgrims and residents for religious devotions. Because of its placement, it must be encountered by all visitors to the temple precinct. On weekends, its terrace is an active and crowded circulation point.

The precinct lawn is used extensively by Indian family groups and is extremely crowded with picnickers and game-players on weekends [Fig. III–17]. These local visitors, generally uninterested in the religious and historical monuments, converge on the precinct in great numbers and picnic or proceed to the Deer Park and zoo. Their steady flow through the area creates a situation of noise and crowding that is in conflict with, and a distraction to, the religious users of the site.

FIGURE III-18. GENERAL VIEW OF THE DEER PARK.

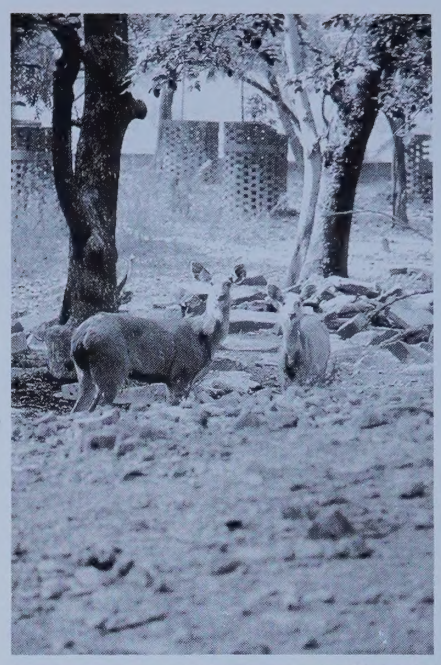

FIGURE III-20. EROSION WITHIN THE DEER PARK.

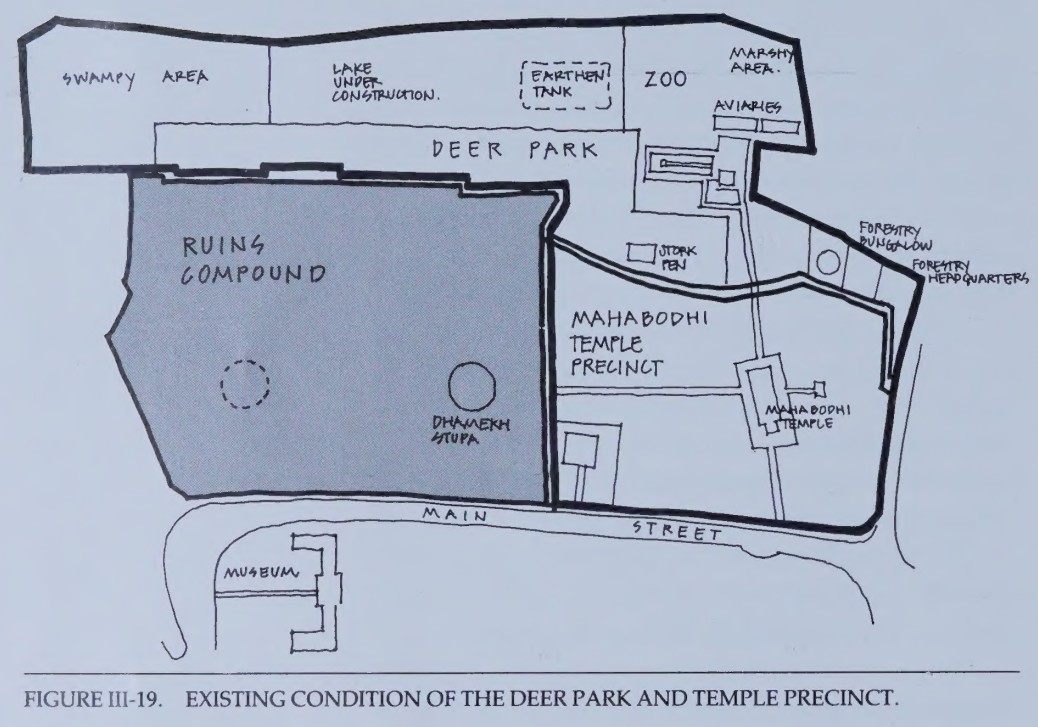

FIGURE III-19. EXISTING CONDITION OF THE DEER PARK AND TEMPLE PRECINCT.

FIGURE III-21. DEER FEEDING.

THE DEER PARK

Describing the Buddha's past incarnation as a deer, the ancient scriptures speak of the Mrigdava, the deer preserve near Varanasi, where the Buddha ruled as lord of the deer. Later, as Siddartha Gautama, he journied to the Mrigdava to preach his message for the first time. Certainly Sarnath is the site of the Mrigdava, since here is the evidence of the stupa celebrating the place of Gautama Buddha's first sermon, as well as the ruins of the Monastery-at-the-Deer-Preserve.

The Deer Park at the site today is a small woodland that was established in 1934 on the occasion of the third millenium of the Buddha's birth [Fig. III–18]. It represents the historic deer preserve and symbolically roots the site in Buddhist history. Like the Mahabodhi Temple precinct, it is managed by the Forestry and Wildlife Department.

The Site

The Deer Park, as here considered, includes the deer enclosure, a small-animal zoo, and a lakesite [Fig. III–19]. The deer enclosure is 1.5 hectares of woodland inhabited by fifty deer and antelope. The woodland trees in the enclosure, as at the lake and zoo, are representative of the dry tropical forest and make a fairly heavy stand. Beneath the lush canopy, however, is a limited amount of plant growth. Brick protectors encircle some trees; other protectors stand empty.

The ground surface is without vegetative cover, being extremely overbrowsed and trampled by the many hooves. It is also littered with bricks and stone fragments, apparently removed from the ruins during the excavations. The topsoil is very thin and compacted. Erosion is widespread; indeed, it is severe in a large north-to-south ravine and on the north side of the site [Fig. III–20]. Two shallow concrete tanks stand in the enclosure, apparently intended for watering. A tall wire fence surrounds the entire space.

Early each day, the deer are called by bugle to feed on legumes and grain at troughs located in an open area near the zoo entrance. The deer depend on this daily ration as their main source of nourishment, though the officials allow deer feeding through the fence bordering the ruins

FIGURE III-22. LAKE CONSTRUCTION.

FIGURE III-23. BIRD CAGES.

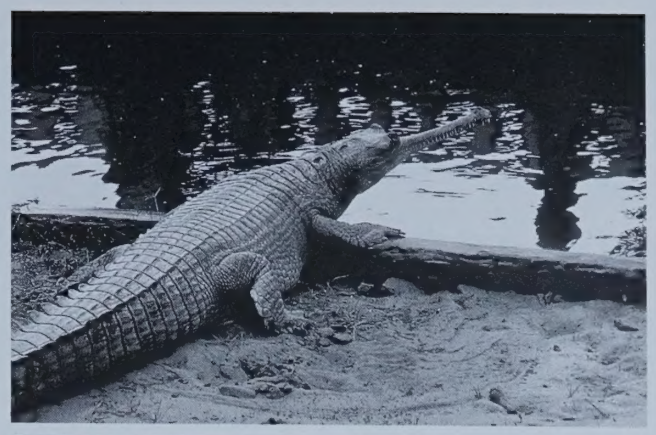

FIGURE III-24. GHARIALS.

FIGURE III-25. VIEW OF THE VILLAGES.

[Fig. III–21]. Stationed along the fence, local village children daily sell carrots for this purpose.

A lake has been under construction since 1987 in the low area north of the deer enclosure [Fig. III–22]. The excavation is intended to be a large rectangular tank, reminiscent of an historic tank at the site. The Forestry and Wildlife Department intends to introduce paddleboating and "tree house"-type guest cottages for visitors. The woods of the area yield to marshland east and north of the zoo. Covered with pinkish-red blooms, the marshland is visually pleasant, especially when local villagers are present gathering lotus bulbs or washing their clothes at its edge.

The remainder of the Deer Park is a zoo exhibiting a collection of small animals. Separated from the ruins compound and temple precinct by a moat, and sheltered by shade trees, it has various enclosures housing the animals. The largest of these are two aviaries, one with fifty-one specimens representing ten species, and another with thirty-nine, representing twelve species. Other birds, such as parakeets, parrots, and quail, are kept in four large circular steel cages in the central zoo area [Fig. III–23]. A new pelican enclosure is under construction near the aviaries. (A listing of the birds and other animals at the zoo is located in Appendix B.)

Near the moat and the entrance to the zoo are enclosures for two gharials, endangered crocodile-like reptiles [Fig. III–24]. Low, grassy areas hold small pools and are enclosed by a wire fence. They are adjacent to a heavy bamboo enclosure for the resident stork. Also displayed are a giant squirrel, rats, rabbits, guinea pigs, and a python.

Additional features and facilities of the Deer Park are provided for the service of visitors, the operation of the site, and the work of the department. A restaurant faces the large open area near the deer-feeding pen. It is patronized by native visitors and site employees. North of it is a well-shaded terrace, providing an excellent view through the aviaries and marshland to the villages beyond [Fig. III–25]. The playground is a walled area near the zoo entrance. Its metal play equipment is used quite heavily on weekends by the children of visitors. For visitor enjoyment, well-tended rose plantings border the open walks.

The water level of the moat is intended to drop gradually over a series of drip dams. Its concrete lining is in need of repair, however, causing the water level to diminish to dampness. It is supplied by a nearby tube well, and the large stone water tower standing east of the bridge to the zoo. A staircase encircles the tower to its top, where a platform offers views to the temple precinct and the Dhamekh Stupa. Its architecture is attractively ornamented and colored, and is appropriate to the site.

At the northeast corner of the Forestry and Wildlife area are the department's headquarters and guesthouse. The office is used by the regional director of the department while the latter is offered for the use of visiting dignitaries, such as the Dalai Lama.

Habitat

The Deer Park, as it exists today, is essentially a habitat for a great number and variety of animals. Its success in this function is crucial, both for the health of the animals

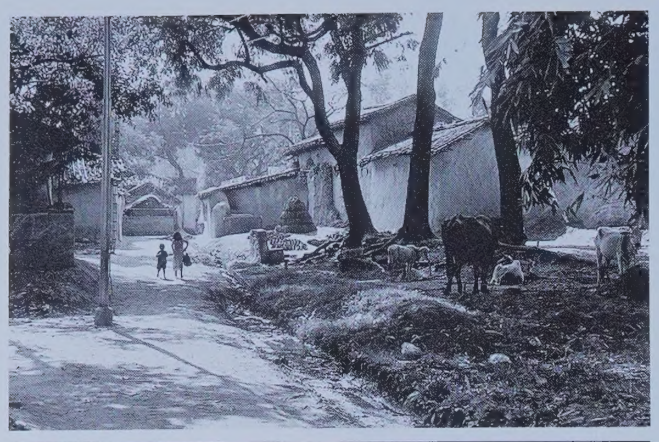

FIGURE III-26. VISUAL CHARACTER OF THE VILLAGES.

FIGURE III-28. NARROW PATHWAY.

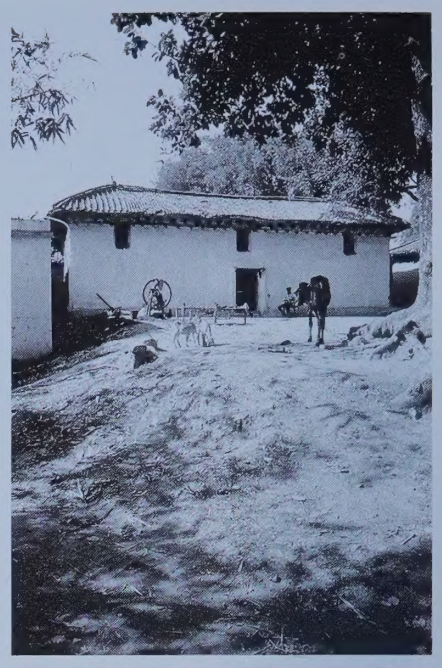

FIGURE III-30. WALL WITH FEW WINDOWS.

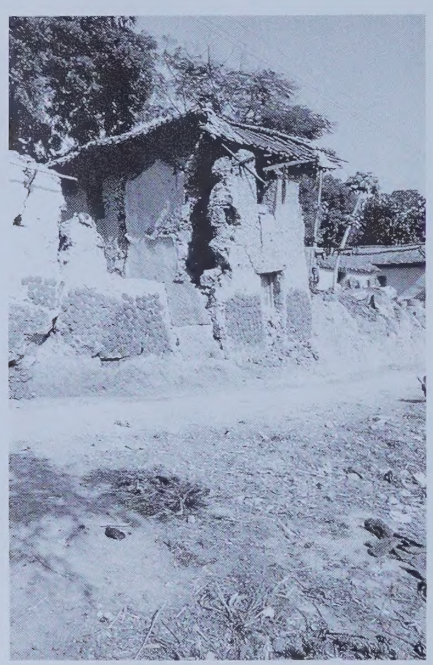

FIGURE III-27. ERODING MUD CONSTRUCTION.

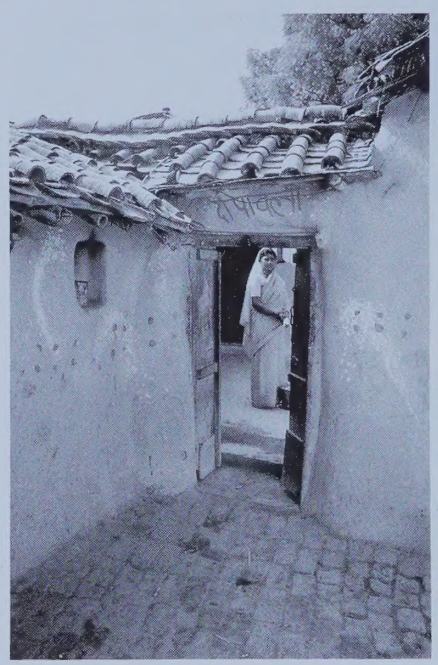

FIGURE III-29. INTERIOR COURTYARD.

FIGURE III-31. ROOF CONSTRUCTION.

exhibited as well as for the visitor's perception of the site. However, from the deer enclosure to the zoo and the wooded natural areas, the quality of the habitat is severely strained.

The deer enclosure is grossly overpopulated. Effort must be made to reduce the size of the herd as well as to increase the area of enclosed space. Fewer species should be represented and should be selected on the basis of their compatibility with the habitat and with each other. Due to the excessive numbers of browsers, the maintenance of shrubby and groundcover vegetation is virtually impossible, thus aggravating the already serious erosion problem. Further, the visual appeal of the area is impeded by the rubble strewn about the ground, the brick tree protectors standing empty, and the often-deteriorated wire fence surrounding it all.

West of the deer enclosure is a large wooded area with understory ranging from dense shrubbery to a low wet area. The abundance of birds the area shelters suggests its potential as a protected native bird and wildlife habitat. Reportedly now in private ownership, its acquisition is strongly recommended, both for expansion of the deer enclosure as well as for protection of its habitat.

The construction of the lake potentially could improve the wildlife habitat, particularly if the surrounding woodland is also preserved and enhanced and if recreation is limited to nonintrusive activities. Visitors could be permitted access to the water surface, as from a viewing platform, but not in paddleboats, which would be a serious disturbance to waterfowl. Such intrusion also seems out of keeping with the religious and devotional nature of the principal site. Viewing areas should be provided frequently, designed for quiet observation of the surrounding environment. Additionally, the lake's beneficial effect on the wildlife habitat would be dramatically improved were its shape not confined to a tank, but expanded, with a naturalized shoreline.

The regular congestion of visitors to the zoo attests to the universal attraction of animals; but the animals' overcrowded enclosures detract from the enjoyment of the experience as well as from the physical and psychological health of the animals. Action to improve conditions should be undertaken as soon as possible, but

should be preceded by a comprehensive evaluation of the zoo's purpose and direction.

Visitor and support facilities provided in the Deer Park habitat reflect their age as well as the effects of steadily increasing visitor traffic. Restaurant space should be expanded to accommodate growing numbers, and international standards of operation should be maintained. Outdoor seating areas should be improved and increased. The physical condition and visual appeal of the moat and the water tower should be protected and repaired, if necessary. Additionally, to protect the habitat and those who use it, the practice of utilizing refuse for landfill material at the site must be terminated at once.

Interpretation and Visitor Perception

As an attraction to all types of visitors, the Deer Park is an invaluable component of the principal site. It provides the opportunity of viewing an interesting variety of wildlife within the context of a major religious place. However, apart from colorful signs listing the names of the animals exhibited, no other interpretive information is available to the visitor. At a time of serious evaluation of the Deer Park's facilities, the opportunity is presented to effectively relate the Buddhist principle of respect for all living creatures to the planning process. The opportunity should be seized, lest the appeal of the Deer Park steadily diminish, even as the number of visitors increases.

THE VILLAGES

Although Sarnath lies within the political jurisdiction of densely populated Varanasi, it retains a predominantly rural character. The villages in the area, and the agricultural land surrounding them, inevitably will experience impacts from any development of tourism at Sarnath. In turn, their unique characteristics present a visual and cultural resource genuinely intriguing to tourists [Fig. III–26].

Comprised of dwellings clustered in a geographically defined area, an Indian village generally is considered to be a community of fewer than 5,000 residents. Since it is customary for women to marry someone from outside their village, large areas are linked through family ties. Land is inherited, so a family might remain in the same village for generations. In Sarnath, village residents usually own the surrounding agricultural fields, but instead of cultivating them, many work as laborers in Varanasi.

Architecture and Ornamentation

Most village structures are of mud brick, which requires seasonal maintenance. After the annual monsoon, buildings must be replastered with a mixture of dung, mud, and straw. In some villages, there are abandoned structures gradually melting into the earth from which they came [Fig. III–27]. Toppled structures are often rebuilt on the same spot, forming small "tells," or hillocks. The layout of the village is organic,

FIGURE III-32. DOORWAY DECORATION.

with narrow pathways between the mud structures [Fig. III–28], occasionally widening into an informal public area.

The typical village dwelling faces inward to an open courtyard, wherein take place the more intimate domestic activities such as cooking and eating [Fig. III–29]. To the public path, the dwelling presents a flat wall, with a few small openings [Fig. III–30]. These openings are few, not only for climatic reasons—to keep the interior cool—but also because of the structural limitations of mud-brick construction. Walls are typically sturdy and tall. They not only protect the interior court of the dwelling, but also often extend beyond it to the limits of the property. This both ensures privacy for the occupants and secures the enclosure from intrusion by the ever-wandering cows.

Timber is used to support the roof and as lintels in doorways [Fig. III–31]. Roofs are covered with mangalore tiles of fired red clay. Often, the exterior walls are ornamented with designs in whitewash or colored paint. These can be as simple as handprints or random spatters of white, or as elaborate as traditional designs, such as the "Tree of Life." Special attention is paid to doorways, which are often bordered by painted geometric patterns [Fig. III–32]. Many of these decorations are applied to celebrate religious festivals and have a deep cultural tradition.

Village Life

Except during the three-month period of monsoon, most village activity occurs outdoors. Virtually every aspect of everyday life is plainly visible. Cows and water buffalo stand tethered in the narrow pathways; goats wander freely; and children play on doorsteps [Fig. III–33]. Women, balancing enormous baskets on their heads, gracefully make their way along the street. Woven cots, leaned against the buildings, are covered with yellow lentils to dry in the sun. A potter works in a shaded interior room just off the public path. Neat arrays of perfect cups and bowls are spread around his cottage to dry [Fig. III–34].

FIGURE III-33. TETHERED COWS.

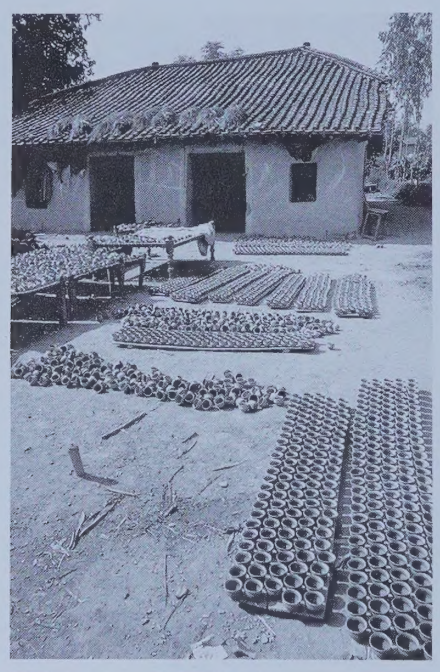

FIGURE III-34. MANUFACTURING OF POTTERY.

FIGURE III-35. TWO-STORIED STUCCO BUILDINGS ALONG SARNATH ROAD.

FIGURE III-36. MAKESHIFT TEA STALLS.

Villages of Sarnath

The villages of Sarnath are Baraipur, Khajuhi, Gorahupur, and Ganj [refer to Fig. III–1, earlier]. The dwellings of Baraipur cluster northeast of the principal site along Ashok Road, which narrows to a meandering path forming the spine of the village. With approximately 3,000 residents, it extends behind the Chinese temple and along the edge of the marsh. From the Deer Park zoo, there are picturesque views of its vegetable gardens and dwellings.

Khajuhi village, with a population of 2,000, is located north of the principal site, on the opposite shore of the marshland. It is reached from the east by an unpaved footpath. The village women clean their laundry at the far shore, making a delightful scene from the Deer Park.

Gorahupur is northwest of the principal site, on Sarnath Road. It seems to be more commercially oriented than the other villages, with cottage-industry silk shops lining its unpaved street and a sign opposite the Archaeological Museum encouraging tourists to visit them. Narrow alleys between the shops lead to the typical mud- brick dwellings. Given the industry here and its potential attractiveness to tourists, this community likely would benefit from an increase in tourism at Sarnath.

Ganj village, unlike the other three, is not developed on a road, but is roughly in the center of the triangle formed by the three major roads. Its golden-brown mud dwellings cluster in the mustard fields, an idyllic prospect of the Indian rural landscape. Ganj is smaller than the others, with a community of 500. It has, in recent years, actually lost population because of local land pressures. Since it occupies such a centralized location and controls the agricultural land bordering Sarnath Road, it will experience the most impact from any development of Sarnath.

Discussion of Issues

Development of tourism at Sarnath undoubtedly will affect local village life. According to interviews conducted in the area, villagers already have sold, or are sorely tempted to sell, their agricultural land to various religious institutions. Land values in Sarnath have increased fivefold in the past ten years. Many local residents view increased tourism in a positive way since it increases the amount expended here on goods and services.

Many village residents produce craft items, which are marketed locally. Several families weave intricately patterned silk, for which Varanasi is famous; others produce disposable clay cups for local tea stalls, as well as clay toys and beadwork. Local vendors, shopkeepers, and craft manufacturers would benefit directly from increased tourism since their crafts would be exposed to more visitors. This points to the real threat, that the villages might become overcommercialized.

The visual and cultural wealth of the villages is a vital aspect that must not be neglected. The unique glimpses of Indian rural

FIGURE III-37. COWS GRAZING ON THE MEDIAN.

FIGURE III-39. DUNG CAKES.

FIGURE III-38. SUMMER COTTAGES.

character and landscape provided by these communities must be preserved, not only for their own welfare, but also as an invaluable element in the area's development. This character is particularly essential and fundamental to the experience of Sarnath Road, with its views of Ganj and the countryside. The preservation of this experience is dependent on the preservation of Ganj, the very location of which threatens its existence. Strict zoning and enforcement to limit commercial development, and to protect agriculture, would serve to maintain the delicate balance already at risk in the area.

Without a doubt the villages will change, regardless of future tourism plans for Sarnath. Their location on the suburban fringe of Varanasi requires their response to pressures from the burgeoning urban center. The development of Sarnath surely will accelerate the process of urbanization. This process must be directed and managed carefully in order to maintain the essential and irreplaceable rural character of the area.

THE ROADWAYS

The major roads in Sarnath form a triangle that links the principal site, the commercial and residential districts, and the villages to greater Varanasi. The area is connected to central Varanasi by Sarnath Road, which extends north from the city. It meets Ashok Road at a Y-junction, about one kilometer south of the principal site and just south of the Chaukhandi Stupa. It continues northwest to Main Street and extends beyond to Gorahupur village. Main Street is an east-west road along the southern boundary of the site, from the Archaeological Museum to the Sarnath railroad station. It intersects Ashok Road at the southeast corner of the principal site, forming the triangle with Sarnath and Ashok Roads.

The character of each of these roads must be examined in detail and carefully considered in terms of its potential in the development of tourism here. Each road is described by relating its overall visual character, points of interest, and recommended improvements.

Sarnath Road

As it progresses toward the site, Sarnath Road passes through dense urban development. It is lined by one- and two-story stuccoed buildings [Fig. III–35]; makeshift tea stalls and vegetable stands press onto its right-of-way [Fig. III–36]. The streets are congested with bicycles, horse-drawn carts, motorized rickshaws, taxis, and well-worn public buses overflowing with passengers. Imperturbable cows graze on the median [Fig. III–37].

Nearing Sarnath, the crush of vehicular traffic lessens, and the landscape becomes more rural. Densely crowded shops and residences are replaced by summer cottages in varying states of repair [Fig. III–38]. Here and there, there is a glimpse of a squatter family encamped in the roofless living room of a once-elegant villa. Small children and goats play in vacant walled compounds. Walls painted with brightly colored advertisements define the roadside. Many are arrayed with rounded and flattened cow-dung cakes [Fig. III–39], textured with the imprints of the hands that pressed them there to dry.

At the junction with Ashok Road is the first sight of the Chaukhandi Stupa, visible through the mature mango trees now lining the road. Here the settlement again intensifies. Mud houses and brick structures crowd the road, the

FIGURE III-40. VIEW OF AGRICULTURAL FIELDS BETWEEN MUD HOUSES.

FIGURE III-42. DHAMEKH STUPA RISING ABOVE THE TREES.

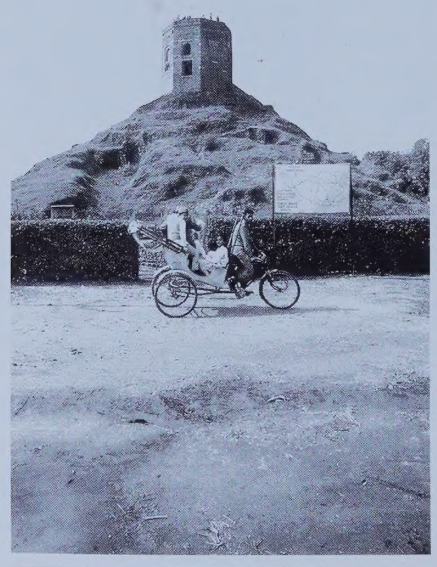

FIGURE III-41. CHAUKHANDI STUPA.

spaces between them revealing bright mustard fields [Fig. III–40]. Brilliantly colored saris hang to dry above wheel-like fodder machines. Cows and water buffalo stand tethered to trees and goats wander the roadside. Small towers of dung cakes dry in the sun. At the Chaukhandi Stupa, inquisitive children approach the tour buses, smiling and waving.

Although the soil-covered brick stupa, with its octagonal Moghul tower, is an interesting monument, its presence is colored and enhanced by the richness and diversity of the roadside life [Fig. III–41]. For the foreign visitor, this may be a first glimpse of the vivid intensity of rural India.

Development continues along the edge with tea stalls and dwellings. North of Chaukhandi is the first view of the Dhamekh Stupa, rising impressively above the trees [Fig. III–42]. The brown mud walls of Ganj village can be seen across the yellow and green mustard fields. Old brick walls, fields, lines of trees, the village—each forms a distinct layer across the view of the landscape. The organic development west of the road is interrupted by the white stuccoed walls of the Thai monastery. Orange ornamental piers frame the gateway and a glimpse of the red dirt road that leads into the sweeping grounds of the complex.

As in urban Varanasi, there are several roadside shrines along Sarnath Road that provide points of interest for the pedestrian visitor. At Chaukhandi, the image of a local Hindu deity, Div-baba, stares from a low platform in the shadow of the stupa. South of the Thai monastery gates is a shrine to the Hindu monkey-god, Hanuman. A doll-figure of him looks out from a cage at the base of the structure. Offerings of marigold garlands and incense cover the altar. Further north, at the gates, is a bright blue- and yellow-painted brick shrine with a seated gold Buddha. These shrines contribute to the rich diversity of the road and remind the visitor that religion is an integral part of Indian life [Fig. III–43].

Main Street

Main Street leads eastward to the Sarnath railroad station from its origin at the Archaeological Museum. Here it is a broad curve of macadam, creating an informal parking plaza for tour buses, rickshaws, and taxis [Fig. III–44]. Souvenir and food vendors cluster in the shade of trees at the entrance to the ruins compound [Fig. III–45]. Boys draped with prayer bead necklaces, and carrying knapsacks filled with postcards, wait here for tourists to arrive. With a running description of their goods, they escort likely customers as far as the gate.

Main Street runs along the southern boundary of the principal site. Mature trees on the site overhang the road, and beneath them stands a wall modeled after the Mauryan railing once found on the Dharmarajika Stupa. The south side of the street is lined with a series of walls, their gates opening onto dharmshalas and religious properties. Although this portion of the street seems relatively less developed, there are points of interest for the tourist who walks it.

Obtruding into the trafficway, on the south side, is the white-painted tomb of a Moslem saint. A grated door exposes a cloth-draped sarcophagus sprinkled with deep-red rose petals. The Mahabodhi Society's elementary school, filled with children, and the small, bright green building near it provide streetside interest. The prominent gates and clock tower of the Mahabodhi Society enclave, opposite the school, also point to the Buddhist religious activity in the area.

Near the middle entrance to the principal site are a few vendors selling candles and

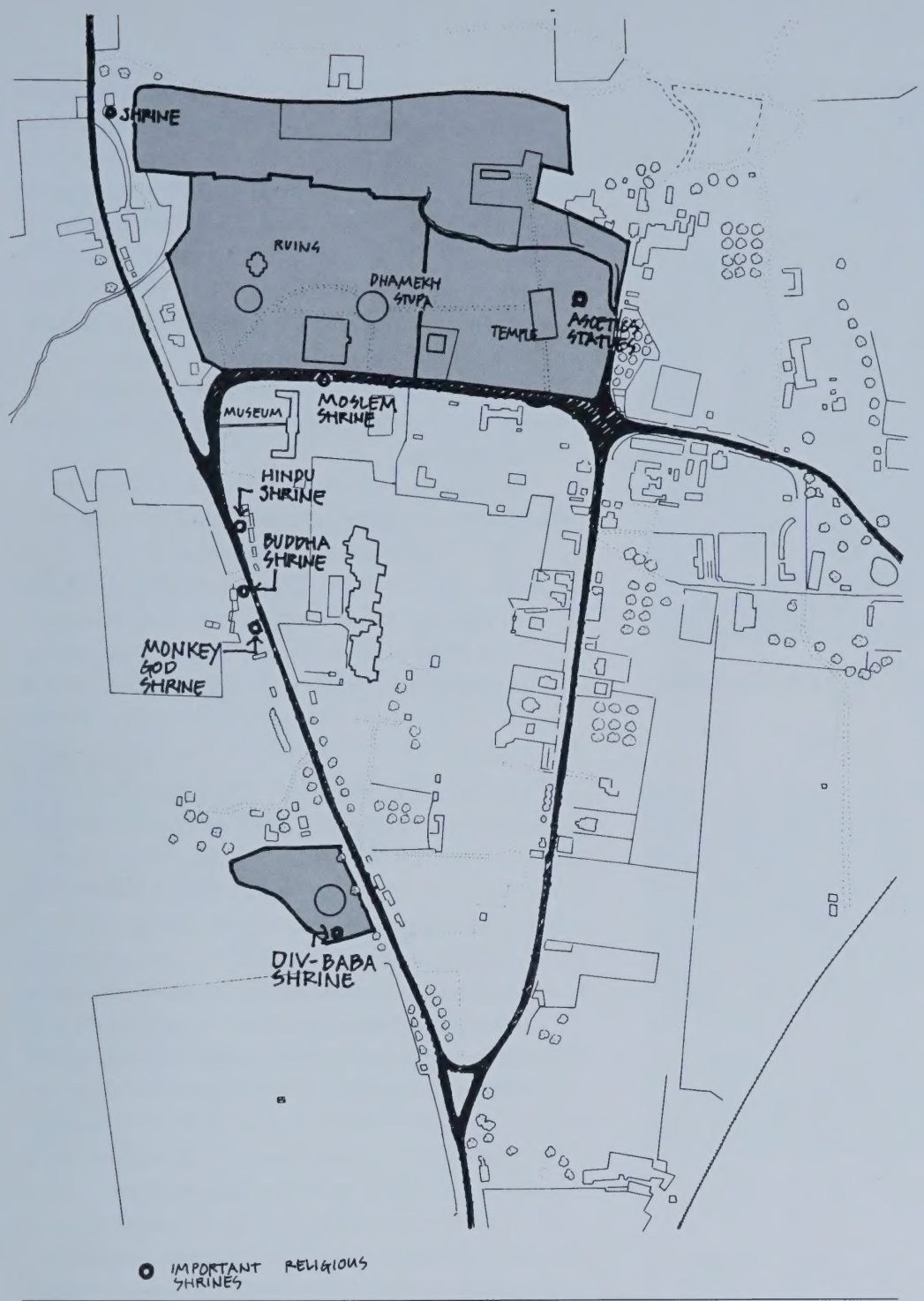

FIGURE III-43. MAP OF SHRINE LOCATIONS.

FIGURE III-44. TOUR BUSES, RICKSHAWS, AND TAXIS NEAR THE ARCHAEOLOGICAL MUSEUM.

FIGURE III-45. SOUVENIR AND FOOD VENDORS.

religious paraphernalia, as well as a permanent souvenir stand. These form the only commercial activity until the Mahabodhi Temple gate. Here, at the intersection with Ashok Road, commercial development intensifies. Women with portable scales selling fruit, semipermanent tea stalls, souvenir stands, and pukka (permanent) shops, all vie for the attention of the passerby [Fig. III–46]. Clusters of rickshaws and Ambassador taxis line the road, waiting for fares [Fig. III–47].

Beyond this node of activity, the street is lined primarily by the enclosures of Buddhist institutions. The yellow stucco walls of the Mahabodhi Intercollege and the Chinese Temple closely edge the road. Further along, an impressive ornamental gate pierces the wall of the Chinese compound. Apparently unused, the gate has become a makeshift laundry rack for squatters.

The street scene opens up towards the railroad station, revealing mud brick dwellings on the northern edge. Near the station are views of red-brown marshes and mustard fields. To the northeast is a gorgeous view of the Hindu Saranganath Temple, with ghats from it to a bathing tank. Women wash colorful laundry in the pink lotus-blossom-covered water. The station, with its whitewash and brick-colored Mauryan architectural details, is a picturesque terminus for Main Street. A simplified version of the gate at the Buddhist site of Sanchi stands at the entrance to the drop-off area [Fig. III–48]. A topiary garden decorates the center of the roundabout.

Ashok Road

Ashok Road is much more built up and heavily trafficked than Sarnath Road. Northward from the bustling commercial development at Main Street, the stalls thin; and the road now is bordered on the east by one- and two-story commercial and institutional buildings, and on the west by the wall of the principal site. The road continues into Baraipur village, narrowing to a footpath.

South of Main Street, the clutter of roadside stalls continues, catering to local traffic with vegetable and sundries vendors and a barber. The state tourist bungalow, with its orange gateway and ornamental garden, is located to the east. Across the road, the colorful gates of the Tibetan monastery are striking, with stylized snarling-lion statues guarding the complex. The walls are painted in English and Hindi with a

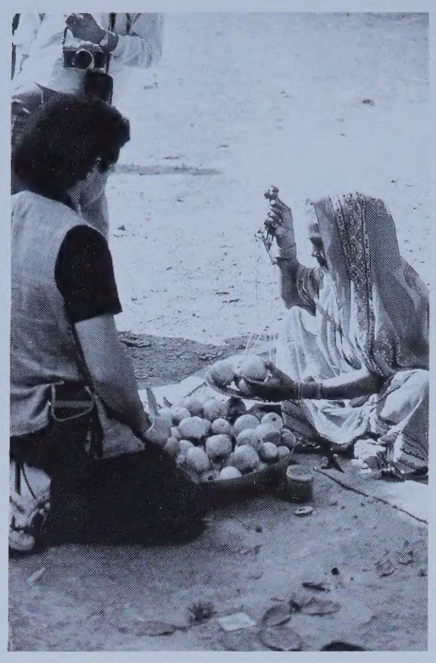

FIGURE III-46. WOMEN SELLING FRUIT.

FIGURE III-47. CLUSTERS OF RICKSHAWS AND TAXIS.

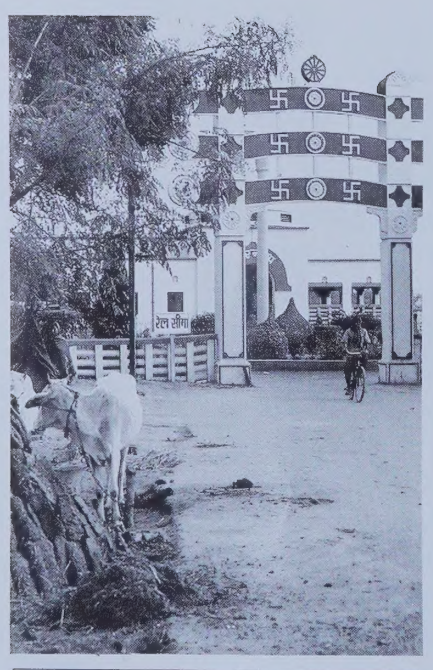

FIGURE III-48. RAILROAD STATION ENTRANCE GATE.

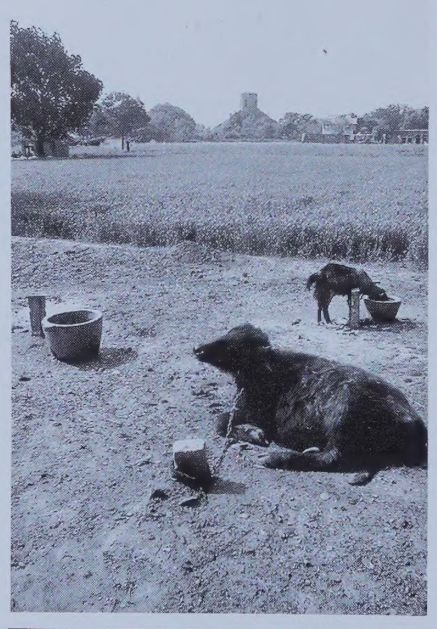

FIGURE III-49. VIEW OF THE CHAUKHANDI STUPA THROUGH MUSTARD FIELDS.

description of the Chinese oppression of Tibet.

Further south, the road is again bordered by the stuccoed walls of summer cottages. The extent of each property is indicated by changes in geometric bas-relief details and paint colors. Ornate wrought-iron gates, draped with sprays of purple bougainvillea, offer views into beautifully manicured gardens. The right-of-way on this portion of the road is clear of squatters and other temporary use, perhaps because of strict policing by individual residents and institutions.

The southern portion of the road opens to agricultural scenes of mangroves and mustard fields. Through a field to the west is a magnificent view of the Chaukhandi Stupa [Fig. III–49]. Finally, at its junction with Sarnath Road, the road is closed in by the brick walls of an idle industrial complex.

Discussion

The tourist experience of Sarnath is not limited to that of the ruins and monuments at the principal site, but also includes the process of the journey there. Views of rural life and religious developments comprise an attractive part of that journey. Each of the major roads has the potential for enriching this experience.

Ashok Road and the eastern portion of Main Street are oriented primarily to the local user. Gates and walls of the various Buddhist institutions are interesting visual accents along these roads, strongly reinforcing the religious nature of Sarnath. However, any tourism-related development in these areas could be difficult, since only small pockets of agricultural land may be available amid the large number of institutions and private residences.

The section of Main Street near the railroad station provides expansive views of the surrounding agricultural land, including the picturesque bathing tank at Saranganath Temple. If rail connections to Sarnath are further developed, including a shuttle service to Varanasi, these scenes would be an attractive first impression for the visitor; they should be preserved from uncontrolled roadside development.

At present, the usual tourist route to the principal site is by way of Sarnath Road. It is bordered by the least amount of permanent development and offers pleasant views to agricultural and village scenes. It provides the first sight of the Chaukhandi and Dhamekh stupas. These views, and the existing lively roadside development, would be of great interest to the tourist and should be preserved.

Although squatter and tea stall encroachment onto the right-of-way can be

somewhat unattractive, the colorful experience of the road is invaluable to tourists. For the foreign tourist, India is not only a country of exquisite monuments, but also of vibrant human activity. Thus, it is important that any plan for the area must enhance this quality and not attempt to sanitize the scene uncharacteristically.

THE CRITICAL DEVELOPMENT ISSUES

The planning and design team conducted an in-depth analysis and evaluation of the overall site, both in India and in studio in the United States. This experience and study of the site led to the identification of fundamental issues, which were recognized by the site-visitation team and affirmed later by the entire team. These issues are related to the goals of the project, as expressed in the Introduction, and to their accomplishment.

Issues at the Principal Site

Because of its unique position in the history of religion and of India, it is essential that Sarnath's image and atmosphere as a sacred historical place be maintained and enhanced. The physical deterioration and erosion of the ruins, caused by their exposure to atmospheric conditions and human intrusion, must be halted. Greatly increased interpretation of the ruins is required to increase visitor understanding and appreciation of them. Overcrowding of animals and deterioration in the Deer Park are serious problems that demand correction.

The activities of various visitor groups to Sarnath often seriously conflict with one another. Weekend picnickers from Varanasi, religious visitors, and general tourists, all use Sarnath in ways that are often incompatible. These conflicts become most apparent during the peak levels of activity and must be resolved.

Contextual Issues

Pressures from Varanasi's growing urban core demand attention. The agricultural landscape surrounding Sarnath undoubtedly will succumb to these pressures in the future. This landscape contributes immensely to the richness of the visitor's experience at Sarnath, and its protection is vital. The vibrant intensity of rural roadside life is an irreplaceable asset requiring preservation. Visual amenities, such as the views of agricultural fields and villages, and of the landmark stupas—the Dhamekh and the Chaukhandi—also must be preserved [Fig. III–50]. As with the enhancement of the experience of the principal site, the character of the road experience should be made more evocative of the historic Buddhist landscape.

FIGURE III-50. VISUAL ANALYSIS.

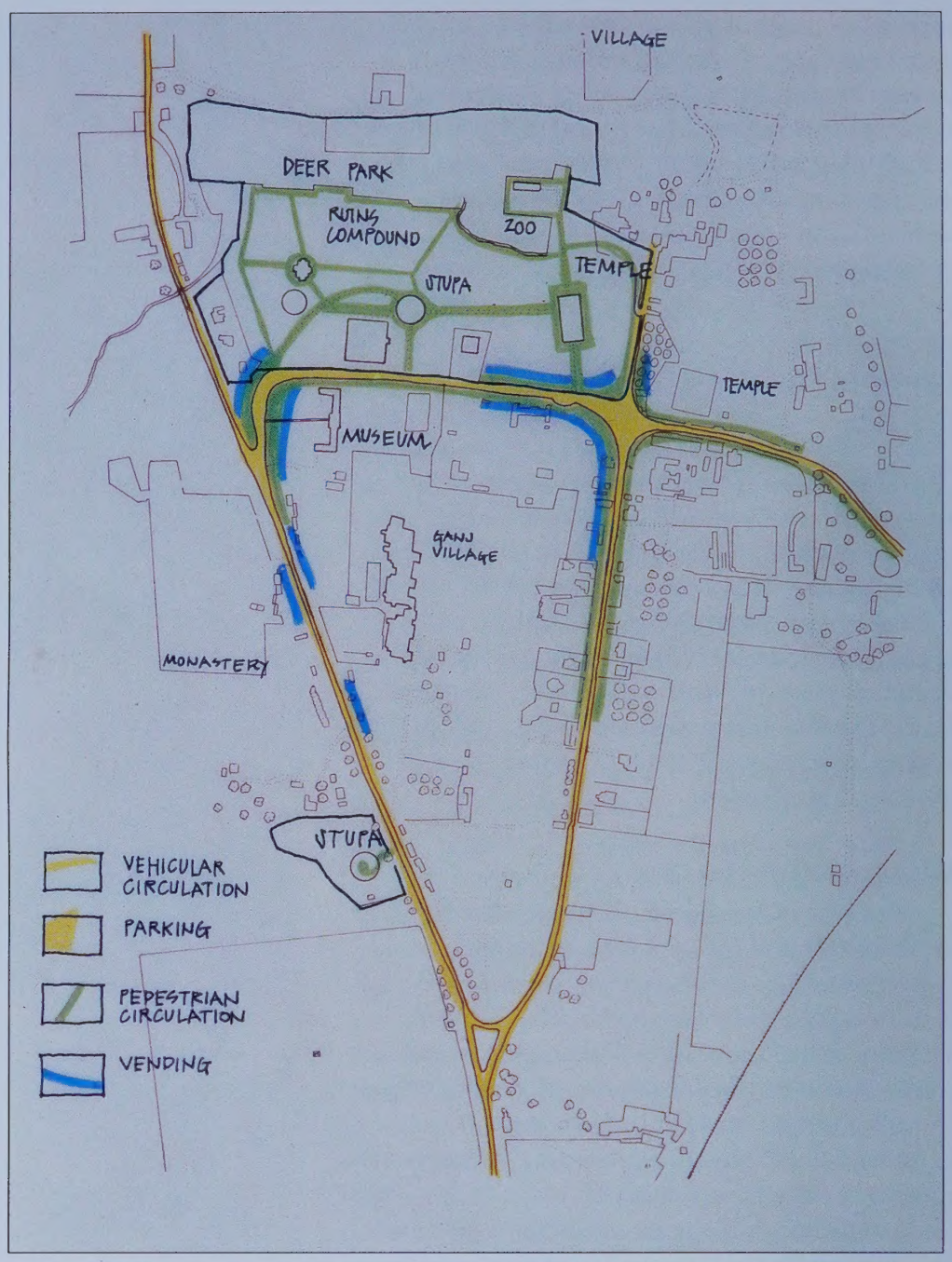

FIGURE III-51. PEDESTRIAN AND VEHICULAR TRAFFIC ANALYSIS.

The existing patterns of traffic flow and congestion, both pedestrian and vehicular, must be considered [Fig. III–51]. Problem areas of traffic congestion include the street near the principal site's major gateways and near the Chaukhandi Stupa.

Some of the use conflicts at Sarnath are the direct result of the lack of attractive recreational open space in the Varanasi region. In addition to addressing the potential for further tourism development at Sarnath, the recreational needs of Varanasi residents must be recognized and accommodated away from the principal site.

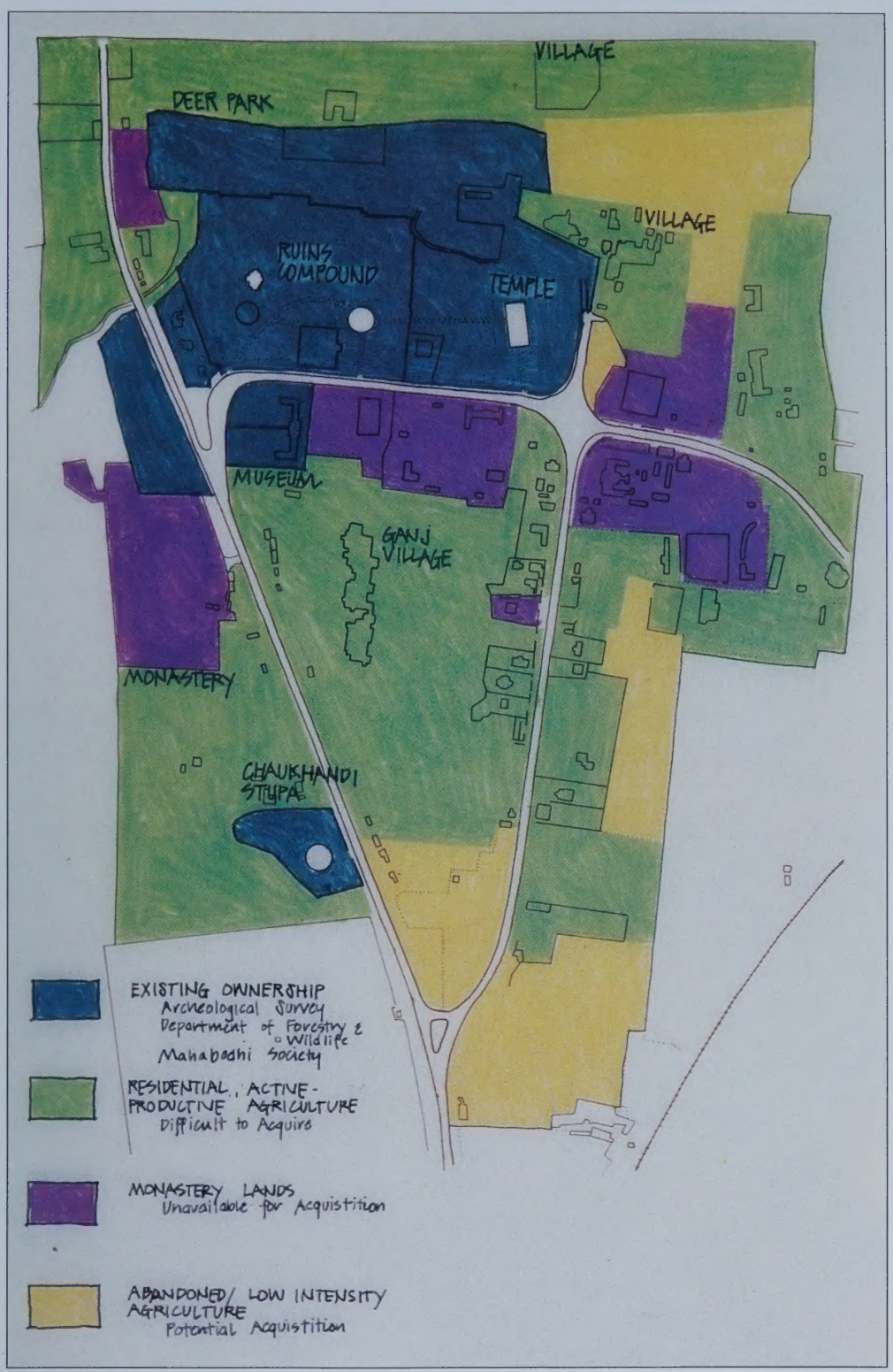

FIGURE III-52. LANDUSE AND OWNERSHIP MAP.

Underlying any expansion of tourist and recreational facilities is the issue of land ownership and availability [Fig. III–52]. Most of the land adjacent to the principal site is owned or leased from the government by religious institutions, such as the Mahabodhi Society. This land is intensively developed and would be difficult to acquire. Property with lower-intensity uses, such as orchards and abandoned fields, present the most promising opportunities for grōwth.

FOUR THE CONCEPTUAL MASTER PLAN FOR TOURISM DEVELOPMENT AT SARNATH

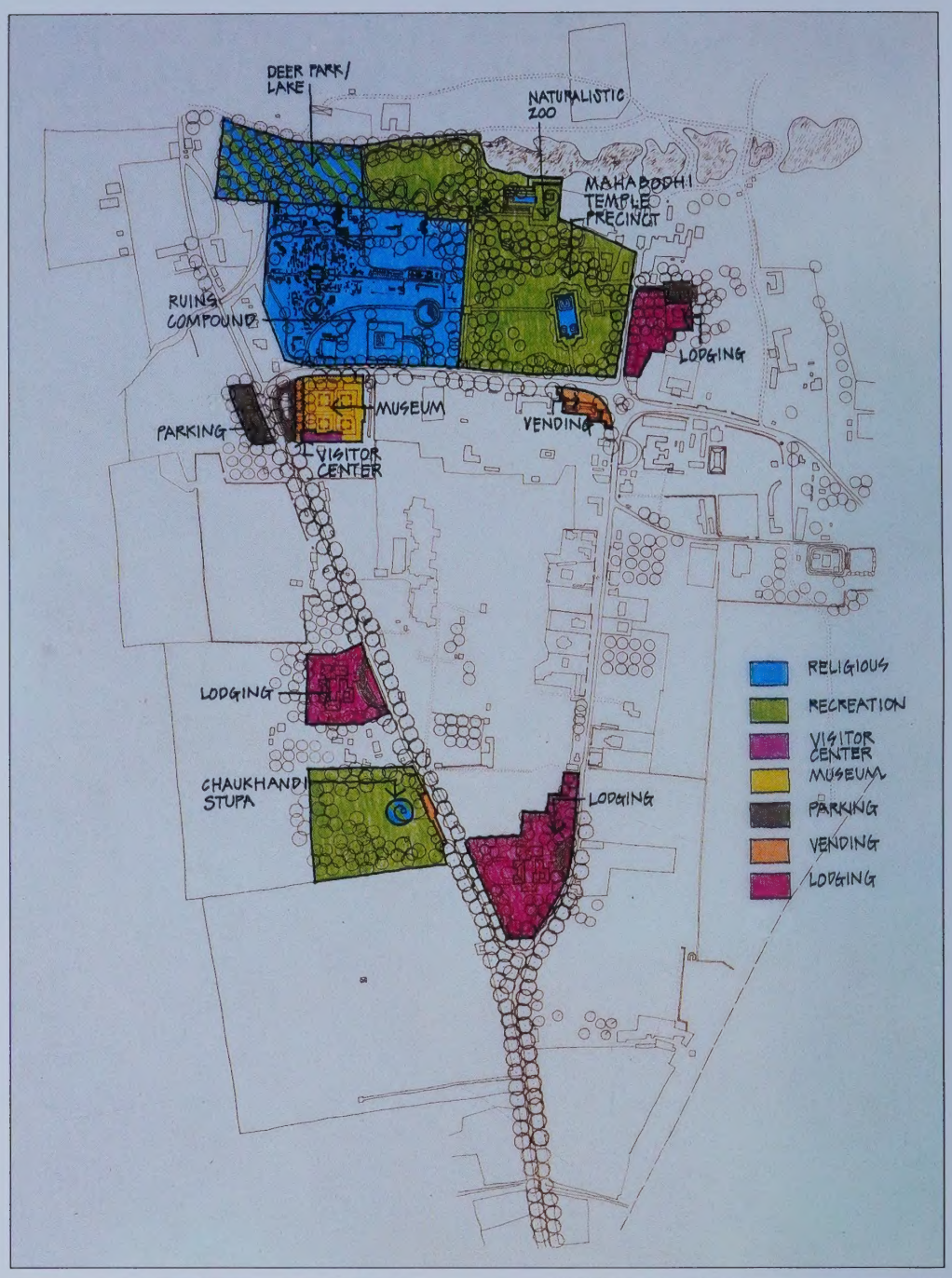

FIGURE IV-1. FUNCTIONAL DIAGRAM OF THE CONSOLIDATED ALTERNATIVE.

INTRODUCTION

In addition to its extensive site analysis and evaluation, the Sarnath site-visitation team maintained an acute sensitivity to the activities and interests of all the agencies and organizations involved with Sarnath. Many conferences and interviews were held with representatives of the Indian government's Ministry of Tourism, the Uttar Pradesh Tourism Office, the Archaeological Survey of India, the Department of Forestry and Wildlife, the Mahabodhi Society, the Town and Country Planning Organisation, the Tibetan Institute of Buddhist Studies, and the District of Sarnath and its villages.

The concerns and opinions expressed in these meetings, together with the development issues and the team's observations, were the basis for preparing and presenting a preliminary concept plan in India. This plan involved a limited decentralization of site features to relieve user pressure at the principal site, and an emphasis on the importance of the Chaukhandi Stupa in the fabric of the Sarnath experience [refer to Fig. I–6, earlier]. The plan was introduced in Varanasi to state officials and interested parties, and in Delhi to national and state officials. These presentations provided the team another opportunity for an exchange of ideas and receipt of feedback from all concerned parties.

The preliminary concept plan, as presented in India, was well received by all observers, judging from their expressed comments and observations. While supportive of the issues and goals addressed by this plan, they brought to light an additional concern: the effect of decentralization of site facilities on maintenance and uncontrolled development along Sarnath Road.

The subsequent redesign of the site was guided by the issues exposed during site analysis, meetings, and the presentations although, obviously, some issues were regarded as more critical than others. In the determination of priorities, the issue that emerged as most crucial was the immediate and serious conflict at the principal site between its use as a religious, sacred place and its use as an active recreation area. In order to explore adequately the resolution of this and the other issues, and to provide meaningful master planning concepts, the team decided to produce a conceptual master plan that incorporates alternative solutions.

FIGURE IV-2. ILLUSTRATIVE CONSOLIDATED ALTERNATIVE.

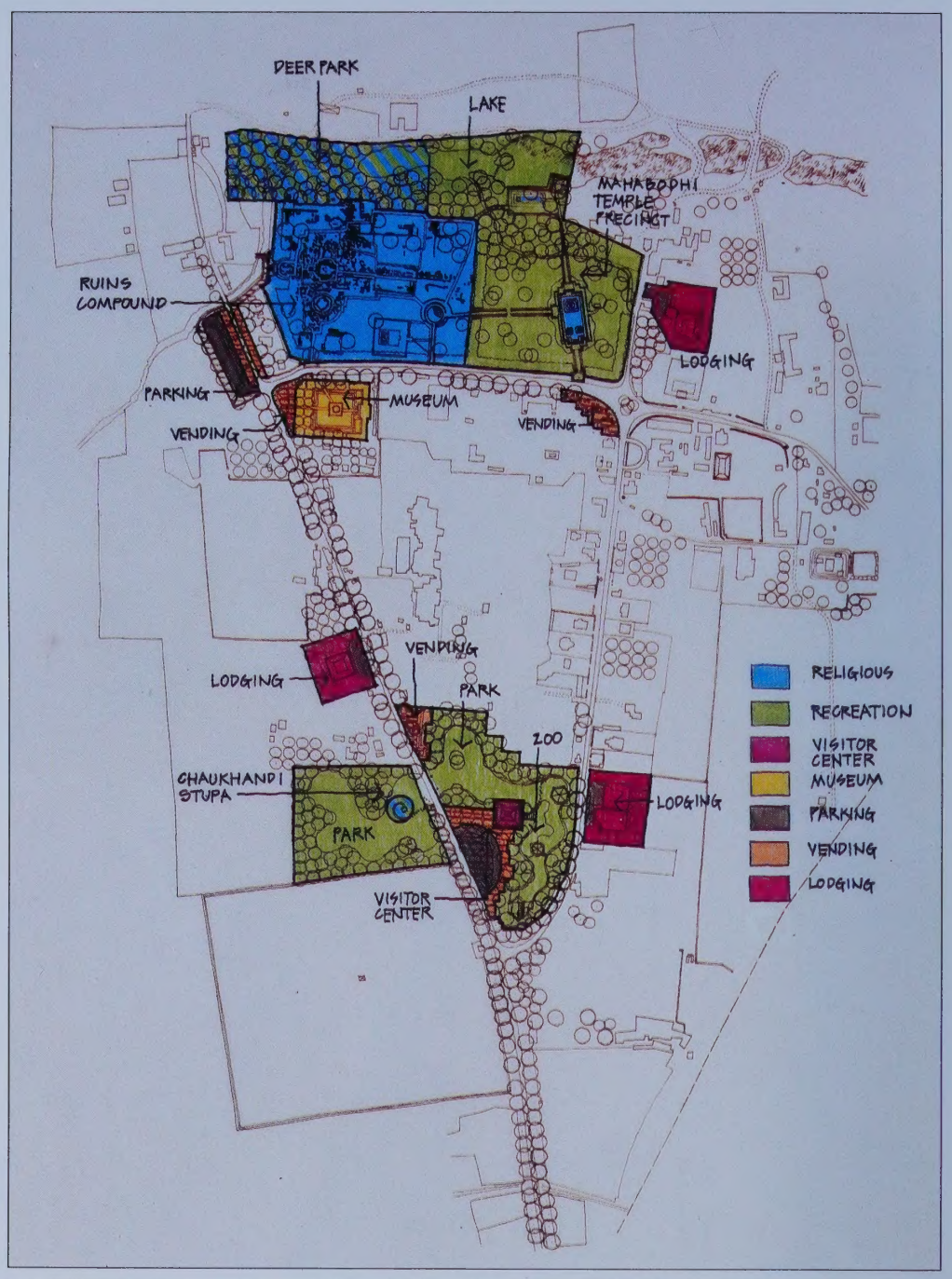

FIGURE IV-3. FUNCTIONAL DIAGRAM OF THE EXTENDED ALTERNATIVE.

The conceptual master plan is thus able to achieve the central goal—that of creating at Sarnath an atmosphere conducive to increasing tourism—while addressing thoroughly the complexity of the situation. The plan moves to enhance the physical structure and appearance of the site, to preserve the area's Indian and Buddhist heritage, to alleviate site use conflicts, and to promote the local economy. Within the context of the conceptual master plan, alternative solutions to critical issues are developed, presented in two basic alternatives distinguished by their organization of key elements of the site.

The first, the "Consolidated" alternative, retains the centralized arrangement of the site, with most land uses in their present location [Figs. IV–1, IV–2]. It restructures facilities more appropriately to the sacred and historical nature of the site. The Deer Park and its zoo are redesigned and enlarged to a more naturalistic display; a visitor center is incorporated into the Archaeological Museum.

The second, the "Extended" alternative, relocates some existing site features to alleviate user pressure and conflicts on the principal site. At the same time, it provides much-needed park land for local visitors [Figs. IV–3, IV–4]. The Deer Park is a naturalized woodland, with its zoo relocated and redesigned near Chaukhandi. A visitor center and park are proposed in the same area.

THE CONCEPTUAL MASTER PLAN

The basic elements of the conceptual master plan are discussed below, while the Consolidated Alternative and the Extended Alternative will be discussed in the sections following.

The conceptual master plan recreates at the principal site a sense of the historic deer preserve, the Mrigdava—tranquil woodland sheltering a peaceful religious community. The ruins compound, as well as the temple precinct, become clearings in the surrounding forest—clearings such as the Buddha and his followers might have utilized for meditation and teaching [Fig. IV–5].

The sheltering, wooded enclosure is emphasized by a high wall on all sides but the north, thus shutting out obtrusive activities and reinforcing the sacred, contemplative nature of the place. Inside the walls, a prohibition is enforced against cooking, amplified music, and

FIGURE IV-4. ILLUSTRATIVE EXTENDED ALTERNATIVE.

active recreation, especially in the ruins compound.

The gates at major entrances are detailed with Buddhist symbols inherent to the site, such as the Ashokan column, wheel, and lions; the Mauryan stupa rail; or the many different images of the Buddha. These provide the visitor a visual grasp of the nature of the place.

Within the recreated atmosphere of the deer preserve of antiquity, certain planning and design concepts are recommended. These are presented in detail below.

FIGURE IV-5. TEMPLE PRECINCT "CLEARING."

FIGURE IV-6. MEDITATION PLACES.

Visitor Center and Interpretation

The experience of the plan begins at a visitor center, wherever it is located. It is at this place that the tourist, whether foreign or domestic, is familiarized with Sarnath and the opportunities here not only for exploration, but also for discovery of the Indian culture and a significant part of its history. Displays, interpretive exhibits, and audiovisual presentations clarify and illustrate the history and development of the deer preserve at Sarnath. These include models and illustrations of the site, of the physical development of the historic religious and academic community here, and of the relationship of the place to contemporary and religious history and to the other sacred Buddhist places in India. (An interpretive program outline is located in Appendix C.)

A central feature of the visitor center is an information desk where well-trained staff are available to assist the visitor. Trained guides are available at this point, either as a service of the site or for hire. Local professional guides are also encouraged to participate in a training program to assure accurate and complete information about the site and its significance.

Guide leaflets are also available at the information desk. These are designed to familiarize the visitor with the site and to provide a self-guided, interpreted tour. The information is keyed to interpretive panels located at major elements throughout the site and illustrated with photographs and sketches of original appearance, if known. The leaflets are published in every major visitor language and are of such a quality as to be suitable souvenirs of a memorable visit. Other literature and souvenirs are sold elsewhere in the center.

The audiovisual exhibit is an inspirational, mood-setting program that encourages an attitude of respect for the site, for the animals and artifacts to be found there, and for fellow visitors who might wish a more worshipful atmosphere or a quiet place to meditate. The program, ten to fifteen minutes in length, is produced in full color and is of high artistic quality. Requiring no narration, it has occasional English and Hindi captions.

This interpretation of the site for tourists, as well as for local visitors, is essential to its success as a meaningful experience. Relying on locally available talent and material, the displays require little electricity and utilize no electronics. The information is thus always available in a form that is easily read and understood.

Ruins Compound

The plan protects and enhances the ruins compound, not only as an important Indian treasure, but also as a sacred Buddhist place. The primary protection proposed for the ruins is an improved, sometimes elevated, hard-surfaced pathway system similar or complementary in appearance to the existing paths. Cantilevered over the ruins in critical areas, the paths no longer bring visitors into direct contact with the artifacts.

The landscape is made more naturalized

and relaxing to the senses, and less of a formal garden. Rather than planted as sharp, well-trimmed accents along the walkways, shrubs are placed near new and existing shade trees to form meditation and study places; to enhance the visual interest of the area; and to buffer against noise, to frame views, and to define transitional spaces [Fig. IV–6].

The pathways are an integral part of the site's interpretive system. Directional signs assist the visitor through the ruins by interconnecting the important monuments. At each of these is a low masonry wall bearing an interpretive panel. As elsewhere on the site, the panel introduces the monument and illustrates its original appearance, if known. The panels are keyed to a description in the tour leaflet acquired at the visitor center. The low wall also provides a physical and visual barrier controlling access to the ruins.

Around the Dhamekh Stupa, a visitor path concentric with and lower than the existing circumambulation path permits visitors to pass by worshippers without disturbing them [Fig. IV–7]. Low walls here also support descriptive and interpretive panels and physically emphasize the separation of the paths.

Mahabodhi Temple Precinct

In the Mahabodhi Temple Precinct, the clearing in the woodland is maintained as a sweeping lawn, accommodating both passive recreation and large-scale religious gatherings, such as occur at the Dalai Lama's visits. The area is shaded here and there by large-canopied trees, the formally clipped ashoks having been transplanted and allowed to naturalize.

Around the temple terrace and below it, a new walkway is installed for direct passage by tourists, limiting the peak-use congestion in this space. Low walls are also installed here, separating the terrace from the walkway; the walls bear interpretive panels explaining the monument. Both the panels and the tour leaflets are illustrated with details of the frescoes inside the temple which depict significant events in the Buddha's life, so that the visitor can learn about the Buddha without having to enter the temple.

At the steps to the temple entrance, shelving is provided for the shoes of those who enter, to help minimize the possibility of theft. The bookstall is relocated to the visitor center to assure a peaceful atmosphere inside the temple and to expose the merchandise to a greater number of visitors.

In order to increase usable space at the principal site, the Mahabodhi Society's elementary school is relocated from the temple precinct to the grounds of the nearby Mahabodhi Intercollege. The small religious building adjacent to the school is also moved from the principal site to a location on the society's grounds, across Main Street. The large colorful billboard on the southwest lawn is removed, its function replaced by new interpretive material.

The crematory monument and its plaza are preserved, and are enhanced by plantings. A terrace overlooks the lake and marshland, with ghats giving access to the water [Fig. IV–8]. Interpretive panels here introduce the villages in view and in the neighborhood.

Deer Park

By its very presence, the Deer Park is a commemoration of the historic deer preserve. The plan recognizes the rich diversity of the Deer Park woodland as a reflection of that forest, a sheltering environment for the many animals living here today. Utilizing this woodland as the

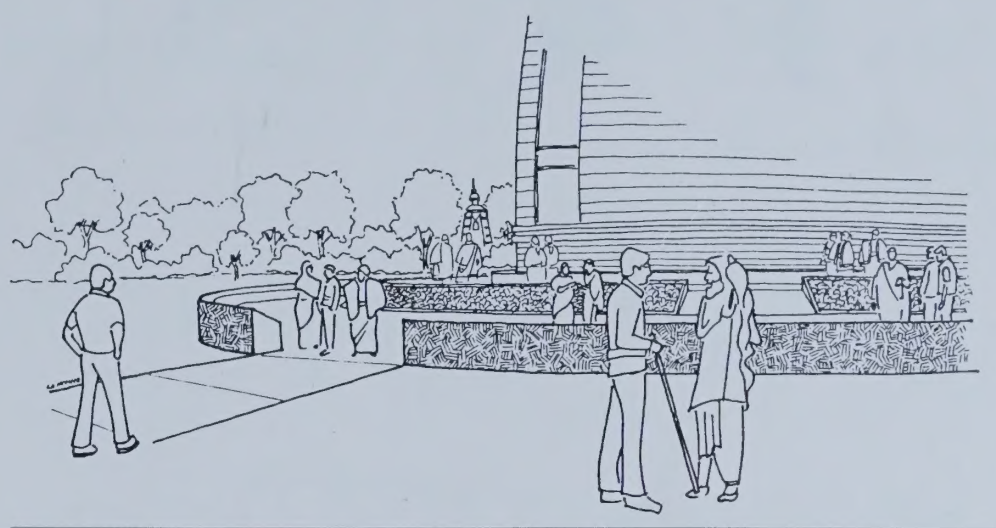

FIGURE IV-7. VISITOR AND CIRCUMAMBULATION PATHS.

FIGURE IV-8. TERRACE OVERLOOK WITH GHATS.

FIGURE IV-9. DEER PARK.

FIGURE IV-10. CLIMBING THE CHAUKHANDI STUPA.

basis for further development, the plan proposes improvements to the habitat as the basic means of recalling the earlier, more pristine deer preserve.

The plan makes important recommendations that address the goals of the Indian government regarding the management of captive animals. These expressed goals are: conservation, through rehabilitation of habitat and improvement of living conditions; education, through regional ecology and native habitat conservation; and research, through programs with local schools, to study animal behavior and research methods.

Specific responses to these goals include expansion of the deer enclosure as a major means of improving the habitat. Other improvements to rehabilitate the enclosure include: removal of ground rubble and supplementation of topsoil; installation of sedimentation structures, such as gabions, in the eroded ravine; and stabilization of the northern slope. Also recommended are expansion into, protection of, and preservation of the wooded area to the west of the existing enclosure; encouragement of understory growth by limiting herd size and by permitting sections of the enclosure to rest on a rotational basis. The brick tree protectors are removed and less visible types are installed.

The lake is enlarged to double the area of the present excavation. By retaining monsoon runoff, it aids in alleviation of the severe erosion problem. In the dry season, it is supplied by tube wells installed to a typical depth in the area of 45 meters or greater, as needed. Its western end now lies within the deer enclosure, allowing the animals a more natural and constant access to water [Fig. IV–9]. The area is secured by a submerged fence.

By naturalizing its shoreline, the lake not only is made more compatible with the serene and contemplative character of the site (an undulating line is more tranquil than a straight one), but it also provides more opportunities for wildlife nesting and cover. Use of the lake is restricted to quiet activity, assuring minimal disturbance of visitors as well as of the nearby deer and other wildlife. The moat, too, is shaped more naturally and carries a steady flow of water from its present supply point—the preserved water tower.

Responses in the redesign of the zoo are: the provision of biologically appropriate environments to produce natural behavior; the development of the public's conservation awareness through the exemplary containment of the animals; and the design of a prototype facility for wildlife care and study. The plan utilizes the animals already managed on the site, although some may not be appropriate in the habitat here, such as the gharials and some species of deer, and should be transferred to a reputable facility.

The goals of conservation, education, and research are basic to the conceptual master plan's animal management recommendations. The alternatives offer two approaches to the development of theme and design character.

The Consolidated Alternative's facility in the Deer Park occupies the area of the present zoo and is recreationally passive in nature, respectful of the spirit of Buddhism. The Extended Alternative's Chaukhandi Park facility occupies the triangular site east of the Chaukhandi Stupa and is an active zoological park. It responds to the recreation needs of the local citizenry and provides exemplary, frequently interactive exhibits of the animals, with a theme focusing on Indian forests. The difference in facility character and location will determine the numbers of various types of visitors to the animal displays.

Chaukhandi

Recognizing the close historic and symbolic relationship of Chaukhandi with the principal site, the plan proposes a degree of development at the southern Chaukhandi site. This development ranges from the provision of a much-needed green space for picnicking and active recreation to the inclusion of the small-animal zoo and the visitor center. The stupa itself remains a dramatic element in the landscape, explained now by the interpretive panel mounted near its base. Visitors, still eager to reach the tower, are enabled to climb the structure harmlessly on a pathway elevated above the restored terraces [Fig. IV–10].

The conversion of land in this area to park space responds to the lack of such space in the greater Varanasi area. The use and user conflicts obvious at the principal site are attributable, in the main, to the unique availability here of a refreshing environment for relaxation and recreation. That the principal site is so popular for active recreation and picnicking testifies to the necessity of a public park in the area.

The already rich experience of Sarnath Road, from Chaukhandi to the principal site, is enhanced, recalling the Buddha's long-ago walk through the forest into the deer preserve. Sarnath Road is a tree-lined lane with mangroves along its way [Fig. IV–11]. Views of the surrounding agricultural land and villages are preserved, as is the fabric of life along the roadside, by means of zoning and strict enforcement. This prevents uncontrolled development from infringing on that which is permitted. At the same time, it preserves visual access to the desirable views.

Archaeological Museum

The exhibits in the Archaeological Museum are redesigned to convey a storyline relating to the Buddha's life and to the deer preserve at Sarnath. An informative brochure is available to aid visitor comprehension. The relationship of both the Buddhist and Hindu artifacts to the site's history is explained, enabling an understanding of the relationship of Buddhism to Hinduism.

Vending Zones and Parking

In recognition of the importance of vendor sales to the local economy, vending zones are established convenient to the museum, near

FIGURE IV-11. SARNATH ROAD.

FIGURE IV-12. TYPICAL VENDING AREA.

major parking areas, at the intersection of Main Street and Ashok Road, at Chaukhandi, and at the railroad station, should it become more utilized as an arrival point. These areas are paved, shaded by large-canopied trees, and protected from the roadways by bollards, enabling control of the open-air markets [Fig. IV–12].

It is proposed that vending be permitted only within these zones, as established by the development authority. In this way, unsanctioned development will be more controllable and the area's rural landscape will be maintained, while still providing adequate, attractive and desirable marketplaces.

Visitor parking is provided at least to the extent recommended by the Town and Country Organisation Plan of 1976, that is, 100 spaces located near major visitor attractions. The plan provides bus and small-vehicle space near the visitor center and the main entrance to the principal site.

Lodging

As tourism at Sarnath increases, so will the need for lodging. New lodging should accommodate the needs of both short- and long-term religious and scholarly visitors. The plan anticipates the increase in visitors and provides for the construction of a number of lodges in the area. Respectful of the importance of the standing monuments at the site, all lodges are built below the height limitations set by the Archaeological Survey.

Two lodge designs are proposed, both compatible with and inspired by the historic and vernacular architecture of the region. The first reflects the organic development of the traditional village, and features local construction techniques and ornamentation [Fig. IV–13]. The second is drawn from the form of the ancient Buddhist monasteries once extant at the deer preserve [Fig. IV–14].

In whichever style, the proposed lodges are modern and may include some of five-star hotel quality as needed. All provide their guests private rooms with baths and dining rooms for daily meals. These are operated under international standards and also satisfy the dining needs of day visitors—those in the area for recreation and tourists lodged in Varanasi. The buildings are naturally ventilated, but also offer air-conditioning, should natural ventilation prove inadequate for comfort. The grounds of each lodge are surrounded by typically high walls, screening out obtrusions and assuring privacy.

Various locations for lodges are proposed by each alternative, a site north of Chaukhandi being common to both. Other sites are located on Ashok Road at its junction with Sarnath Road, east of the principal site, and south of the Mahabodhi Society complex. These locations are not essentially specific to either alternative, but should be viewed as typical sites that could be developed as needed.

The plan proposes temporary campgrounds to accommodate the massive crowds at peak religious festivals and visitations. These are provided, by arrangement with the landowners, as needed in the many mangroves and orchards in the region. Shuttle buses transport the visitors from the principal site to the outlying campsites, enabling a wider dispersion of the temporary population load on the area and alleviating in a substantial way the sanitation problems caused by intense concentrations of campers.

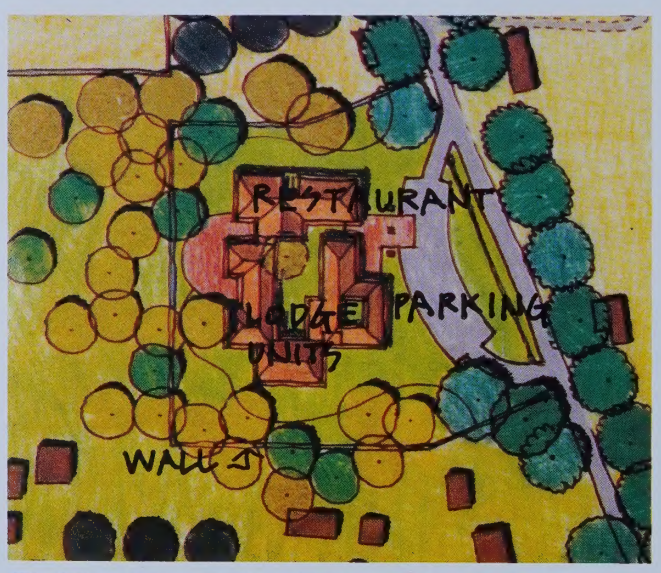

FIGURE IV-13. VILLAGE-TYPE LODGE.

FIGURE IV-14. MONASTERY-TYPE LODGE.

Architecture and Construction

As part of its orientation to the Sarnath project, the planning and design team conferred with the Development Alternatives group, associated with the Indian Institute of Technology, regarding appropriate building technology in India. At this meeting, the team was introduced to an innovative "rammed-earth" brickmaking technology developed by this organization [Fig. IV–15] specifically for its simplicity of application in rural India.

Utilizing moistened soil and a ramming device, great quantities of high-quality mud bricks can be produced daily. Although most appropriate in the construction of one- or two-story village-type buildings, the method has been used successfully in the construction of the design group's new office and research center in Delhi. This simple, low-technology method of mud-brick production and construction is suitable for the various buildings proposed at Sarnath, such as the lodges and visitor center [Fig. IV–16]. The system is designed so that the local villagers could be instructed easily in the technique from the soil preparation to the final plastering of the completed structure.

The use of earth and natural, local materials in the construction of the new buildings makes them blend comfortably with the surrounding neighborhood [Fig. IV–17]. Ornamentation, such as found in the local villages, further enhances these structures. Traditional designs are executed by local craftsmen in whitewash and red brick-colored paint. With such traditional embellishments, the architecture of the Sarnath development has an appropriate appearance and visual impact, further instilling in the visitor a sense of the history and continuity of the place.

In addition to employment in the construction of lodges and other buildings in the Sarnath development, local village crafts and labor could be utilized to furnish these structures. Such things as locally produced cloth, pottery, and furniture are acquired easily. Information about the furnishings further enriches the visitor's experience and promotes local craft production by indicating where they can be purchased. This aids in establishing a self-sustaining economic cycle for the villages and craftsmen in the region.

The conceptual master plan for development of tourism at Sarnath is the foundation for resolving the major issue of user pressure and conflict at the principal site. Effective resolution of this issue will determine the success of tourism development in the area, since it is the sacred and historic nature of the principal site that appeals to nonlocal visitors, rather than the opportunities for recreation. The alternatives within the conceptual plan offer two different approaches to the resolution of this issue, and are discussed below.

FIGURE IV-15. "RAMMED-EARTH" BRICKMAKING MACHINE.

FIGURE IV-16. RAMMED-EARTH BRICK CONSTRUCTION.

FIGURE IV-17. ARCHITECTURE UTILIZING LOCAL MATERIALS.

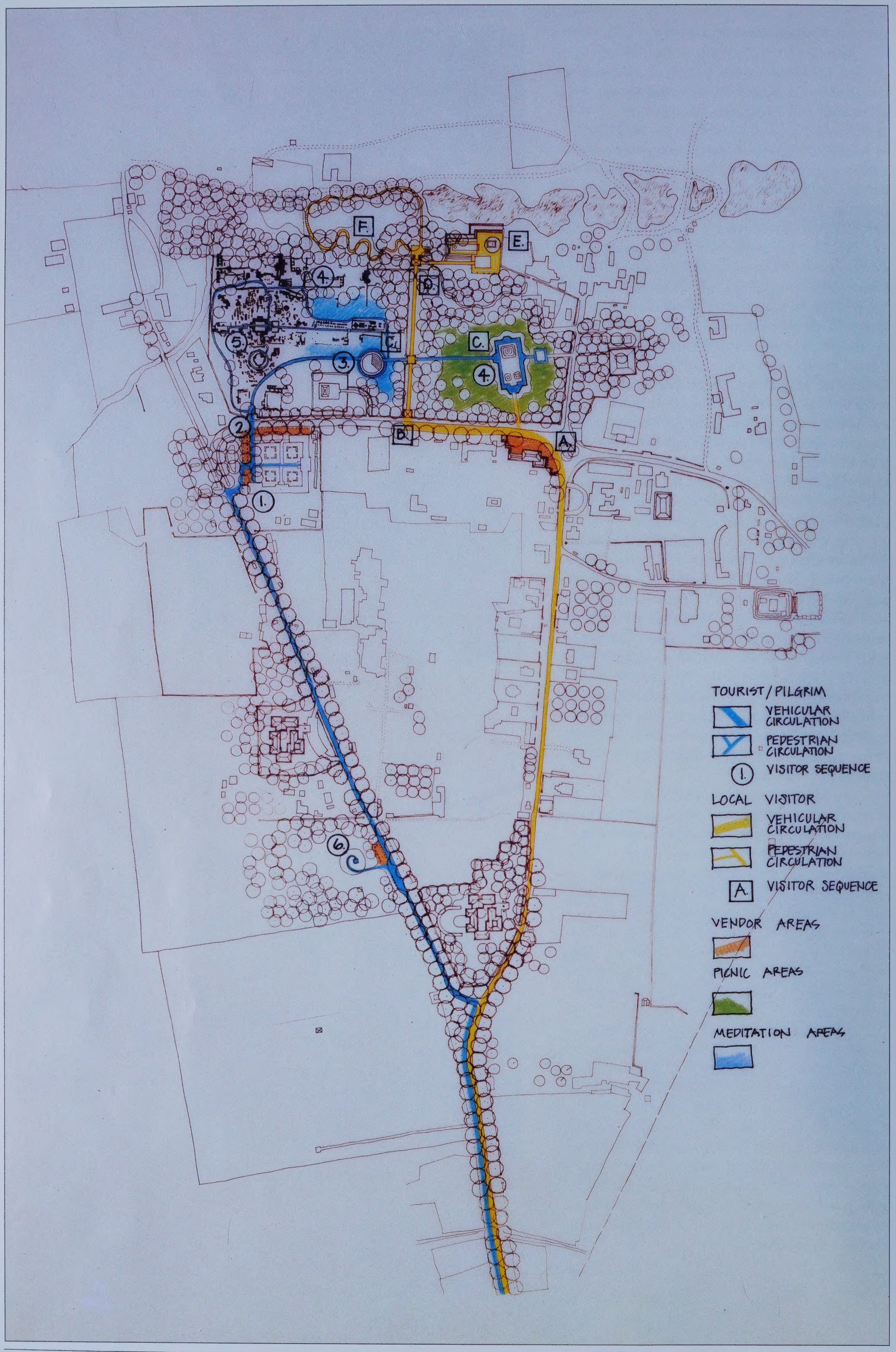

FIGURE IV-18. CIRCULATION OF THE CONSOLIDATED ALTERNATIVE.

THE CONSOLIDATED ALTERNATIVE

Key elements of the Consolidated Alternative are presented here in its typical visitation sequence [Fig. IV–18].

Archaeological Museum and Visitor Center

The Consolidated Alternative proposes the incorporation of the visitor center with the Archaeological Museum. A new wing of the museum, extending along the south side, houses additional exhibition space as well as the center [Figs. IV–19, IV–20]. It provides initial orientation to the principal site and the neighborhood. The visitor proceeds from here to the southwest entrance to the principal site.

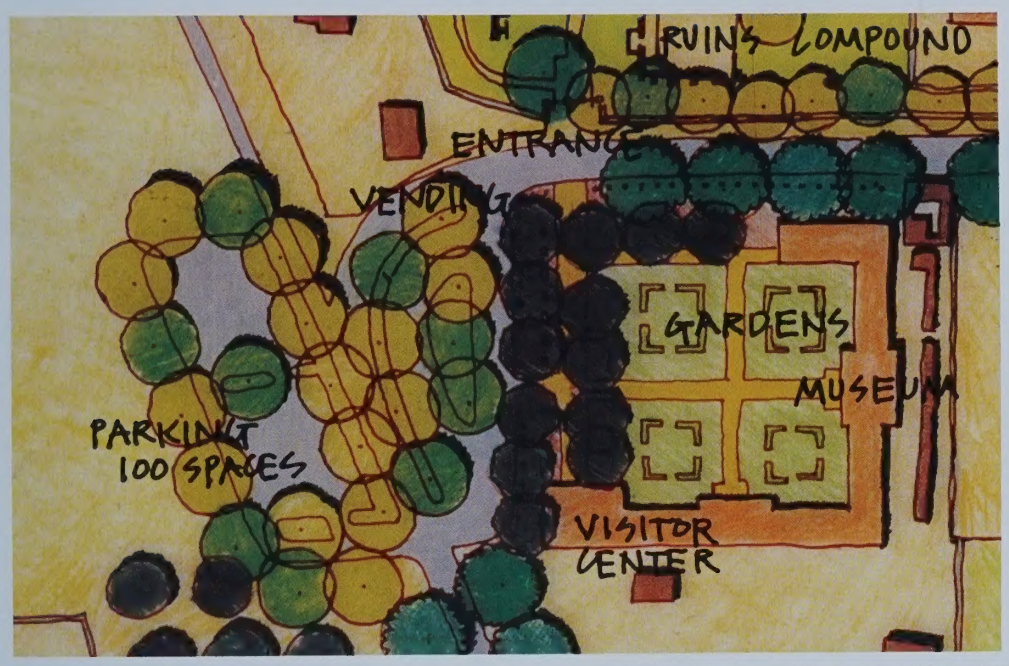

FIGURE IV-19. ARCHAEOLOGICAL MUSEUM AND VISITOR CENTER (CONSOLIDATED ALTERNATIVE).

FIGURE IV-20. ARCHAEOLOGICAL MUSEUM AND VISITOR CENTER (CONSOLIDATED ALTERNATIVE).

Ruins Compound

The visitor enters the ruins compound by way of a tree-shaded forecourt, at which stands the new entry gate. A shaded, vestibule-like plaza further heightens the visitor's anticipation of the encounter with this place and inspires a sense of respect. This new entry is located east of the present gate, which is removed.

The clearing-in-the-woodland atmosphere, hearkening to the historic deer preserve, brings a sense of serenity. It is reinforced by an extension of the deer-enclosure woodland into the compound. The path through the ruins traces historical ceremonial routes between the stupas and the Main Shrine. Visitor congestion at the Dhamekh Stupa is reduced by closure of the present middle gate to the principal site. The gate now permits access only to the Jain Temple [Fig. IV–21].

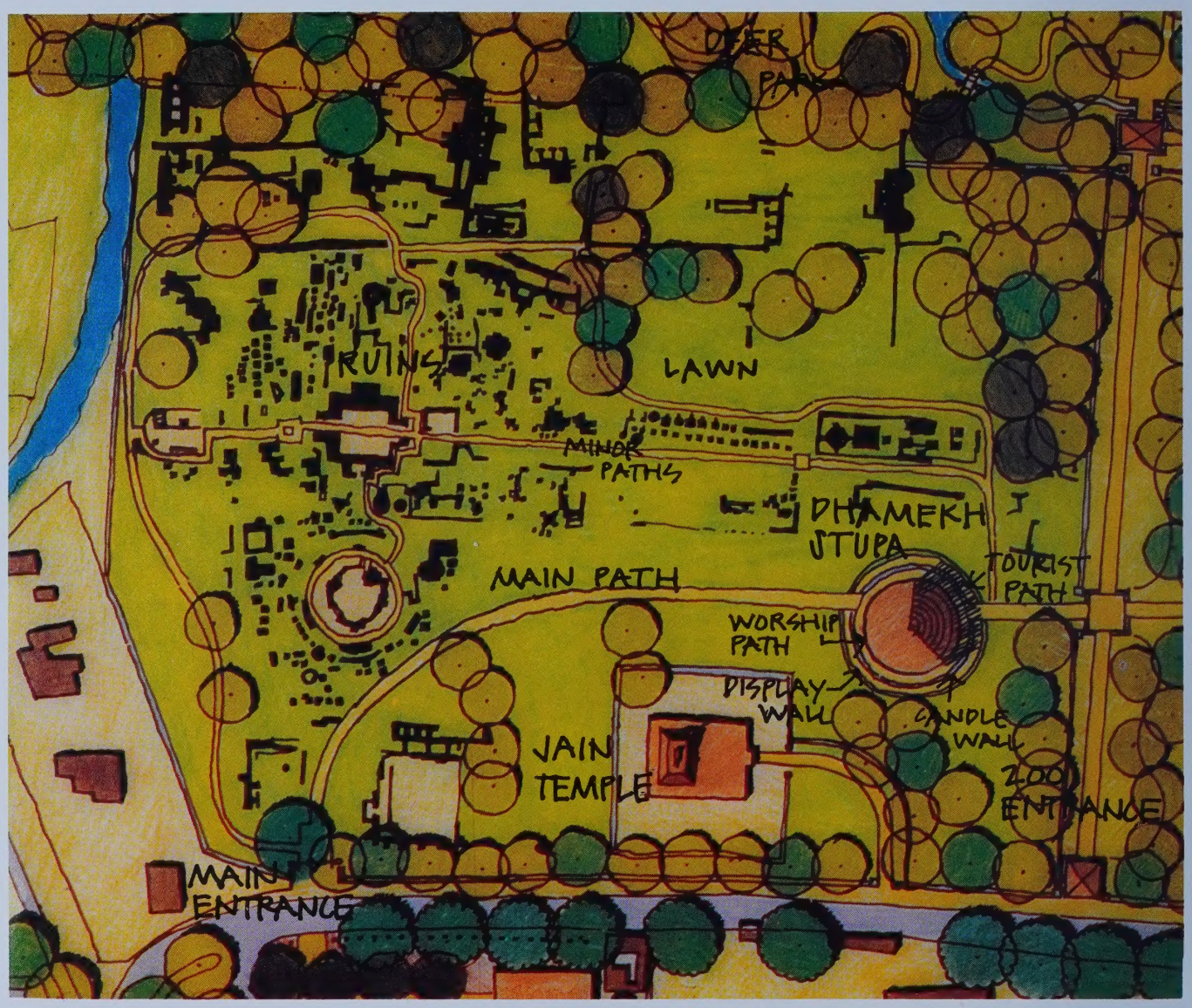

FIGURE IV-21. RUINS COMPOUND (CONSOLIDATED ALTERNATIVE).

Mahabodhi Temple Precinct

The tranquil nature of the more wooded temple precinct is protected by a proposed Deer Park gate on Main Street [Figs. IV–22, IV–23]. This entry guides local visitors directly to the Deer Park entrance, north of the ruins compound. It bypasses both the temple and the Dhamekh Stupa, relieving the pressure of frequently heavy pedestrian traffic at both these locations. The present walk from the temple to the zoo is removed, discouraging use of the precinct as a direct route there. Another walk is installed from the temple terrace eastward to a gate in the wall on Ashok Road, providing direct access to the site from the lodge and visitor parking area across the road.

The Deer Park gate mainly will be used for access to the wildlife exhibit and deer enclosure, thus reducing significantly the traffic through the precinct. Due to the use of the park at Chaukhandi, activity on the precinct lawns is quieter, reinforcing the serenity anticipated at a sacred place.

FIGURE IV-23. DEER PARK GATE (CONSOLIDATED ALTERNATIVE).

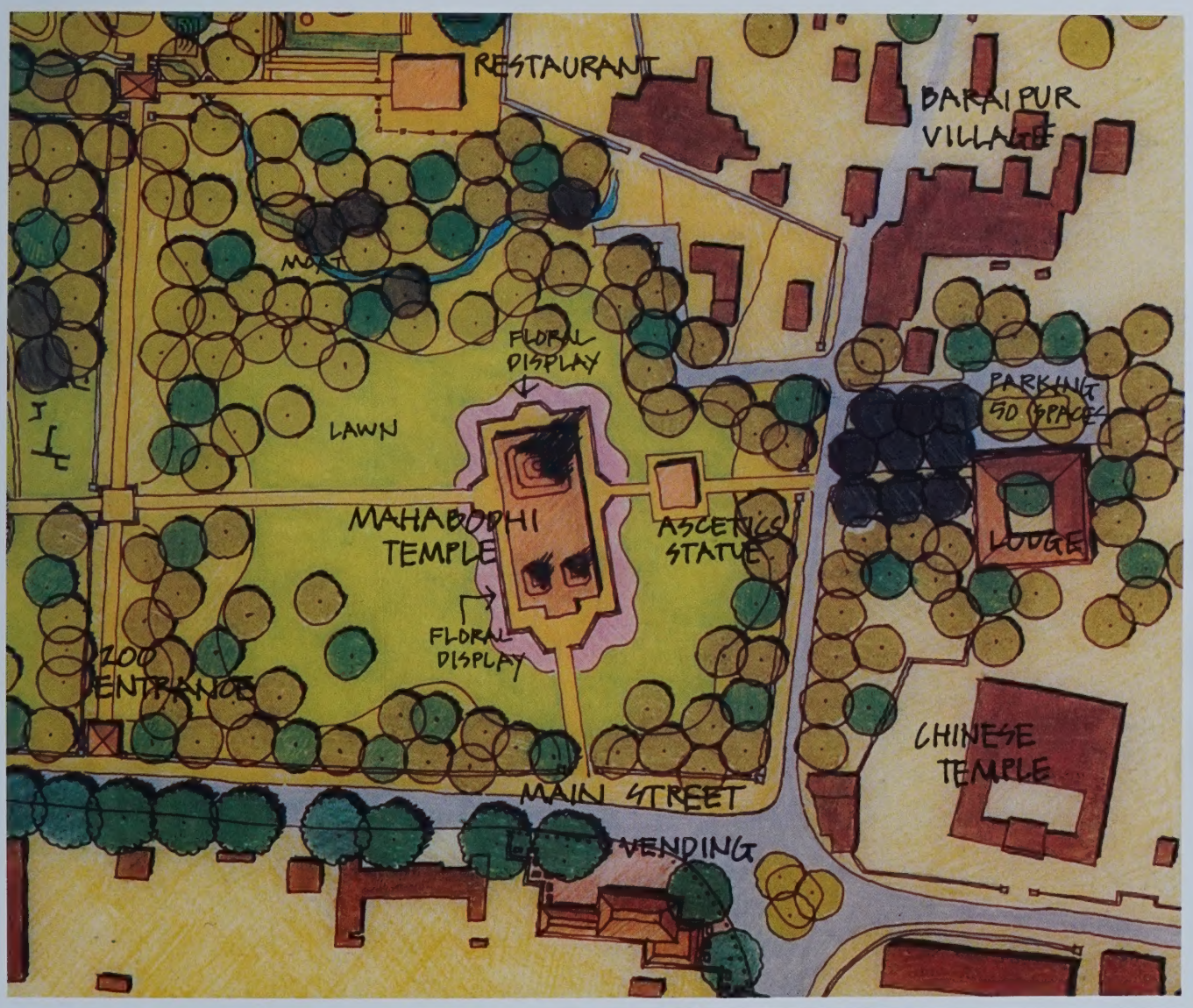

FIGURE IV-22. MAHABODHI TEMPLE PRECINCT (CONSOLIDATED ALTERNATIVE).

Deer Park

The Deer Park habitat is developed as a naturalized wildlife exhibition area, emphasizing the relationship of the combined deer enclosure and zoo to the traditions of Buddhism [Fig. IV–24]. A system of quiet, interpretive nature trails extends the meditative atmosphere of the ruins compound, exposing the visitor to the Buddhist principle of harmlessness to all living things and to the basic elements of regional ecology and species endangerment.

The visitor is also made aware of the need for an understanding of the role of animals in the environment, their conservation, the preservation of their habitats, and of the need for a better understanding of the relationships of local species to local peoples. Solutions to man-made problems in nature are introduced through provision of educational materials. Responsibility for wildlife is demonstrated by the example of respect for animals in the collection.

The experience of this redesigned zoo includes the lake and the deer enclosure [Fig. IV–25]. Recreational users gain access to the area from the new gate at the south, located at the former site of the Mahabodhi elementary school. The walk from this entrance proceeds directly to the Deer Park. From the walkway, the visitor views the animal exhibits and feeds the deer.

In addition to the wildlife displays, a terrace is proposed, overlooking the lake and marshland and providing excellent views to the northern villages. Ghats here provide access to the water. A small, improved restaurant is located near the crematory monument and its plaza. Service access is through the gate near the northeast corner of the temple precinct.

FIGURE IV-25. WILDLIFE EXHIBITS (CONSOLIDATED ALTERNATIVE).

FIGURE IV-24. DEER PARK (CONSOLIDATED ALTERNATIVE).

Chaukhandi

At various points during the tour of the principal site, including the visitor center, the tourist is familiarized with the Chaukhandi Stupa and its relationship to the site. While it is not part of the primary route, the tourist is nonetheless encouraged to visit this landmark, explore the mound, and climb to the tower for the view of the countryside and the principal site.

The present hedges and paths of the stupa enclosure are replaced by a comfortable lawn and additional shade trees. Primarily for the use of local visitors, this park is intended to be an appealling green space for picnicking and active recreation. Floral displays could also be provided here to replace the rose garden currently at the Deer Park [Fig. IV–26]. Additional property could be acquired east of the site across Sarnath Road to expand the park space as necessary.

In order to permit a quieter and more leisurely pace for the tourist along Sarnath Road between Chaukhandi and the principal site, the Consolidated Alternative proposes that general traffic on Sarnath Road proceed north directly onto Ashok Road, to the business sector of the area. This creates a T-intersection at the junction of the two roads replacing the current Y and requiring a left turn to continue on Sarnath Road to the principal site. A passenger drop-off area near the stupa facilitates a convenient visit.

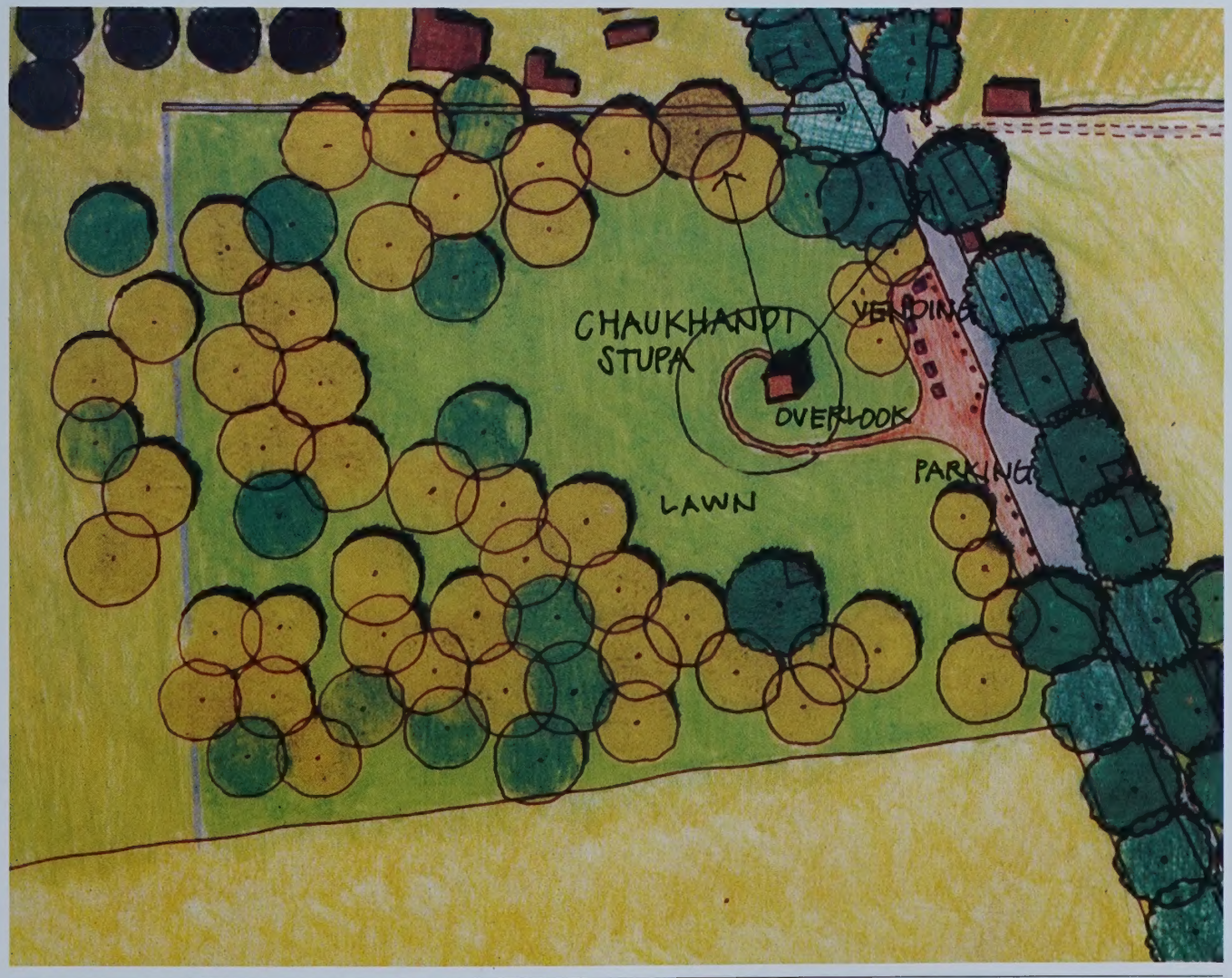

FIGURE IV-26. CHAUKHANDI STUPA (CONSOLIDATED ALTERNATIVE).

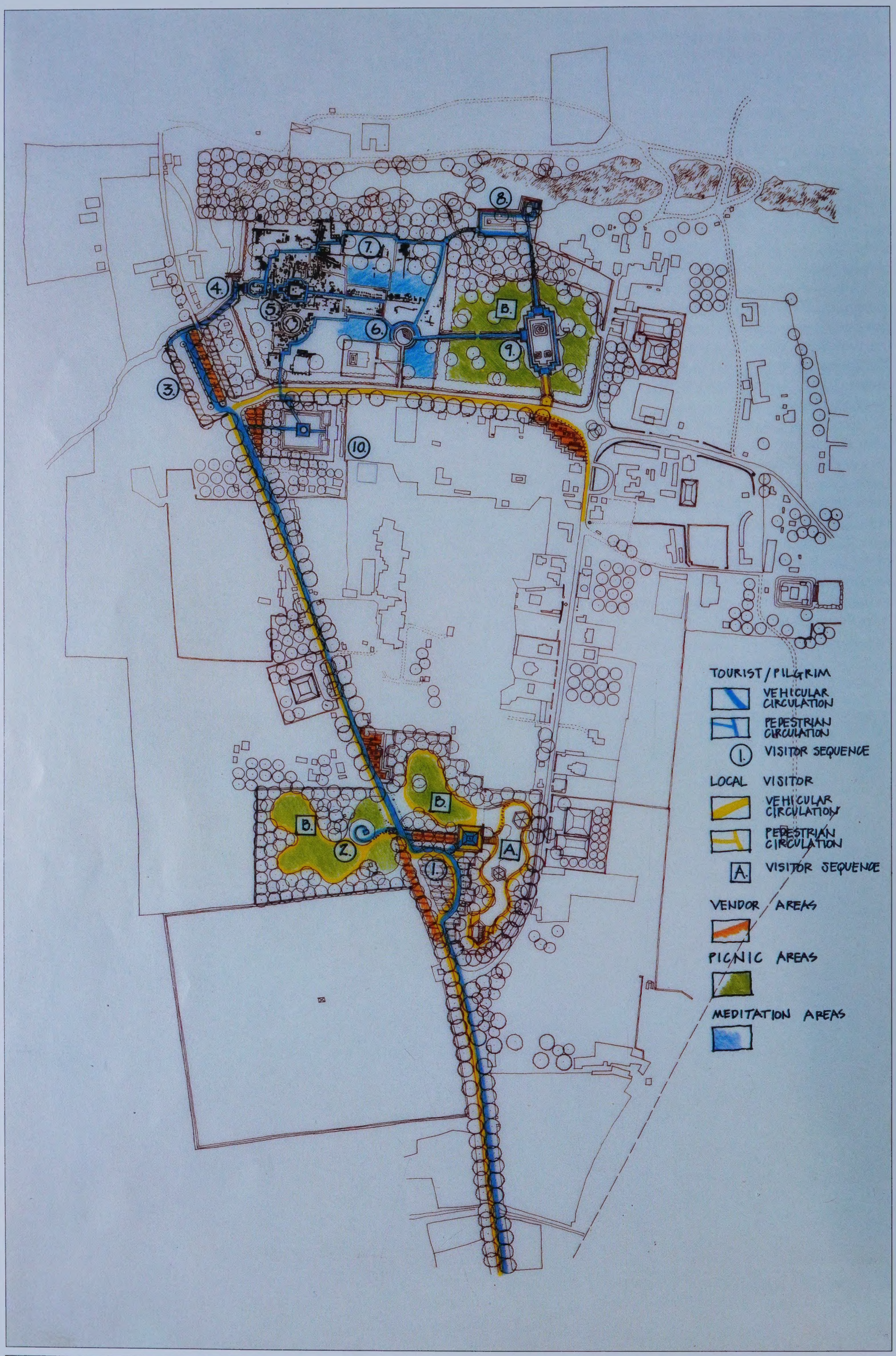

FIGURE IV-27. CIRCULATION OF THE EXTENDED ALTERNATIVE.

THE EXTENDED ALTERNATIVE

Key elements of the Extended Alternative are presented here in its typical visitation sequence [Fig. IV–27].

Chaukhandi Park and Visitor Center

The Extended Alternative emphasizes Chaukhandi as the gateway to the Sarnath site and the center of recreation for local visitors [Fig. IV–28]. In order to make the entrance-way clearly apparent, traffic is routed directly north on Sarnath Road toward the principal site by creating a T-intersection with Ashok Road, in place of the existing Y. Here, a right turn onto Ashok Road is required for access to the residential and business districts.

Tourist traffic is directed to the visitor center in Chaukhandi Park. A large parking area receives up to sixty vehicles, from buses to rickshaws [Fig. IV–29]. The visitor center is comprised of four quadrants: two for orientation of tourists, foreign and domestic; one for reception and public restrooms; and one a forecourt with sheltered entrances. From the center, the visitor proceeds either to the Chaukhandi Stupa, to the zoo, or to the lawns and picnic area.

The park area is strongly connected, visually and by the landscape, to the stupa grounds. This creates one extended park, with Sarnath Road as the central artery leading to the experience of the principal site. The park and stupa areas provide comfortable, shaded lawns, encouraging relaxation as well as recreation. (The zoo is discussed later.)

FIGURE IV-29. VISITOR CENTER PARKING AND VENDING AREA (EXTENDED ALTERNATIVE).

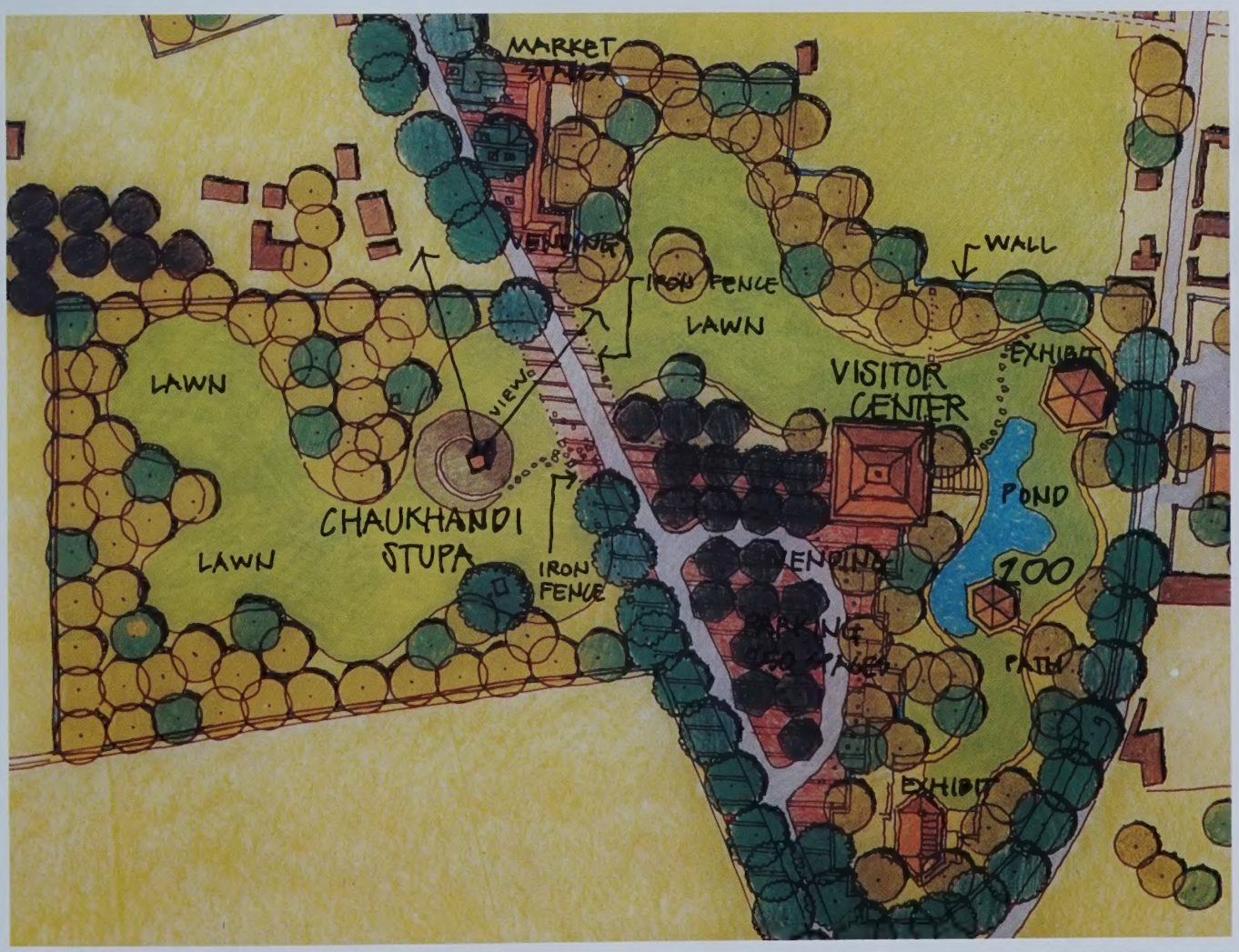

FIGURE IV-28. CHAUKHANDI PARK VISITOR CENTER (EXTENDED ALTERNATIVE).

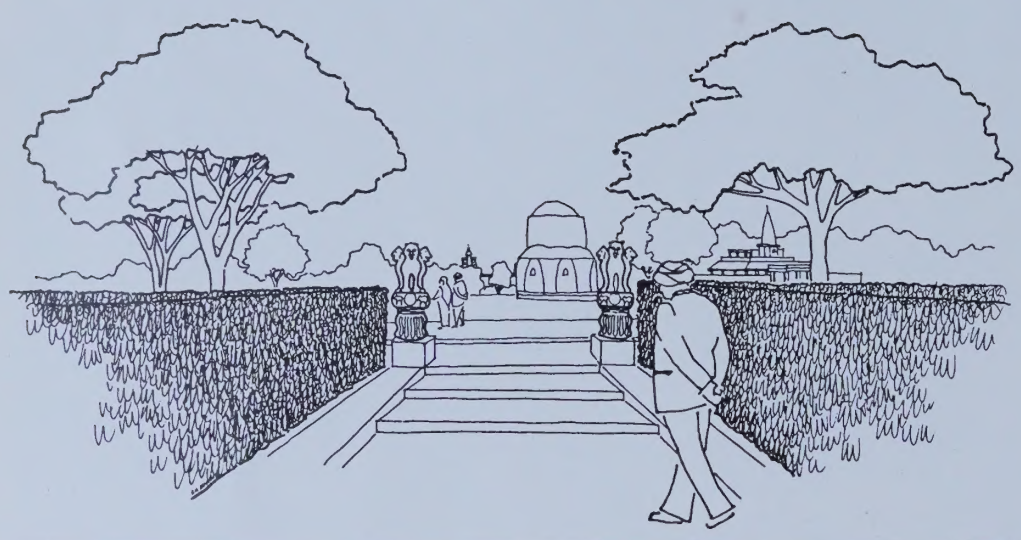

FIGURE IV-31. ENTRY GATE TO RUINS COMPOUND (EXTENDED ALTERNATIVE).

Ruins Compound

Proceeding north on Sarnath Road from Chaukhandi, the visitor arrives at the entrance to the ruins compound [Fig. IV–30]. This alternative proposes a new entrance at the west end of the compound, south of the Burmese Temple gate [Fig. IV–31]. The visitor is guided along Sarnath Road by a distinct paving pattern to the new gate north of Main Street. Alternately, the visitor arrives at a drop-off point near the gate. A fifty-space all-vehicle parking area is constructed west of the new entrance, across Sarnath Road. The visitor follows the nearby stream into the woodland bordering the ruins. The path leads through the gate to a small elevated plaza overlooking the ruins compound, providing an overall view of the site from the Apsidal Chapel to the Dhamekh Stupa. Such a view is not currently available.

The pathway system allows exploration of the major monuments and artifacts by expedient routes, as well as by the ancient ceremonial approach to the Main Shrine. At the Dhamekh Stupa, the lawn area near the candle shrine is dedicated to devotional use and worship activities. It is not readily accessible to the main pedestrian walk. The present path along the southwestern end of the deer enclosure fence is removed and a double fence installed. This permits viewing into the enclosure, but discourages approach and deer-feeding in this seriously eroded area.

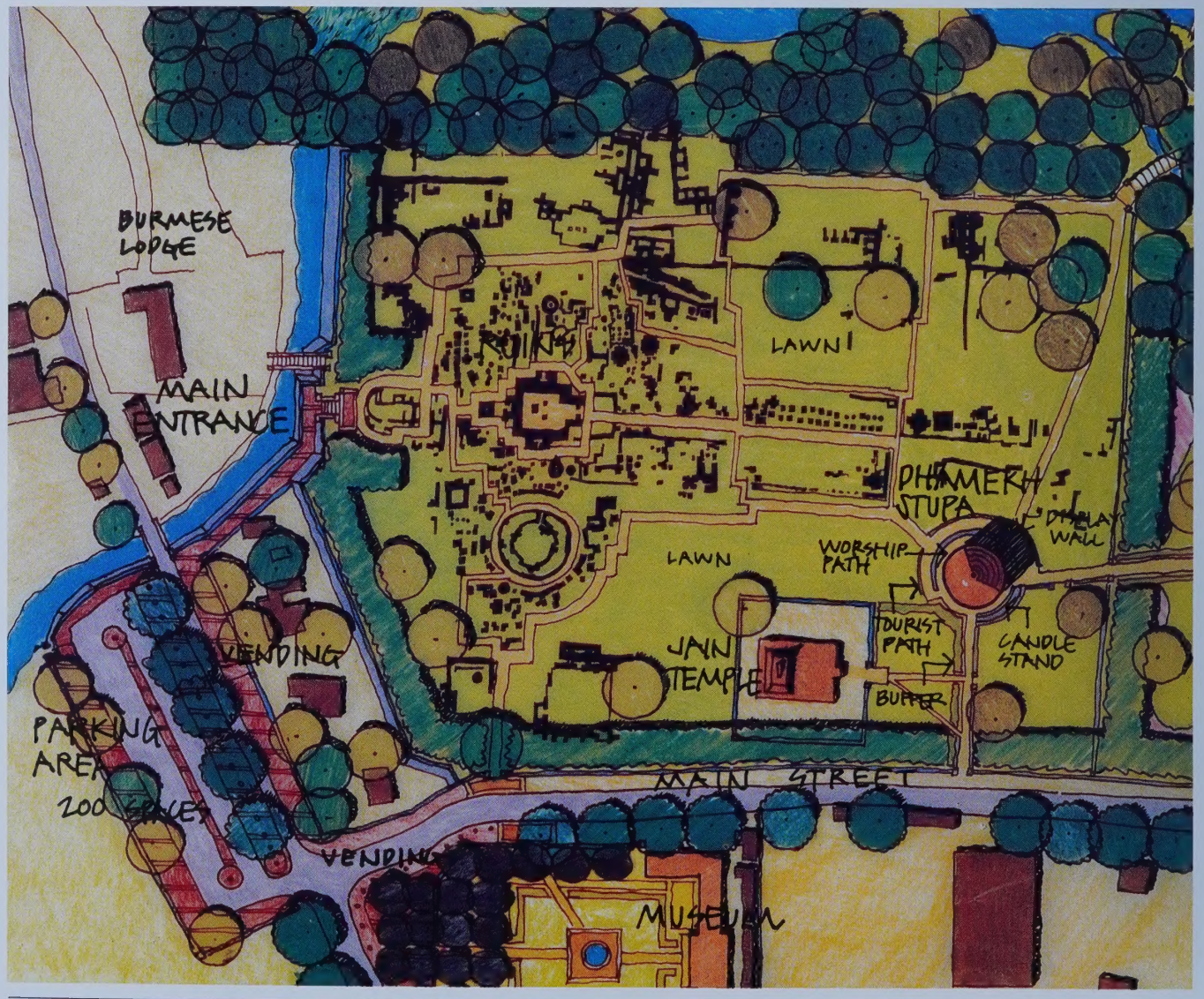

FIGURE IV-30. RUINS COMPOUND (EXTENDED ALTERNATIVE).

Mahabodhi Temple Precinct

The broad lawns in this area are bordered by free-form beds of flowering plants, inviting relaxation and quiet activity [Fig. IV–32]. Low shrubs border the walks, controlling access to the lawn sections. Beyond the crematory monument and plaza, broad ghats lead to the lake and marshland, providing delightful views to the villages in the north.

FIGURE IV-32. MAHABODHI TEMPLE PRECINCT (EXTENDED ALTERNATIVE).

Deer Park

With the relocation of the zoo to Chaukhandi Park, more area is available in the Deer Park for the deer enclosure, enabling a more rapid return to a healthful condition for the animals. The area around the lake is developed as a meditative, quiet nature preserve to which religious visitors might retire for short periods of seclusion and contemplation. Trails guide the visitor through the woodland, providing access to the deer enclosure for viewing and feeding [Fig. IV–33].

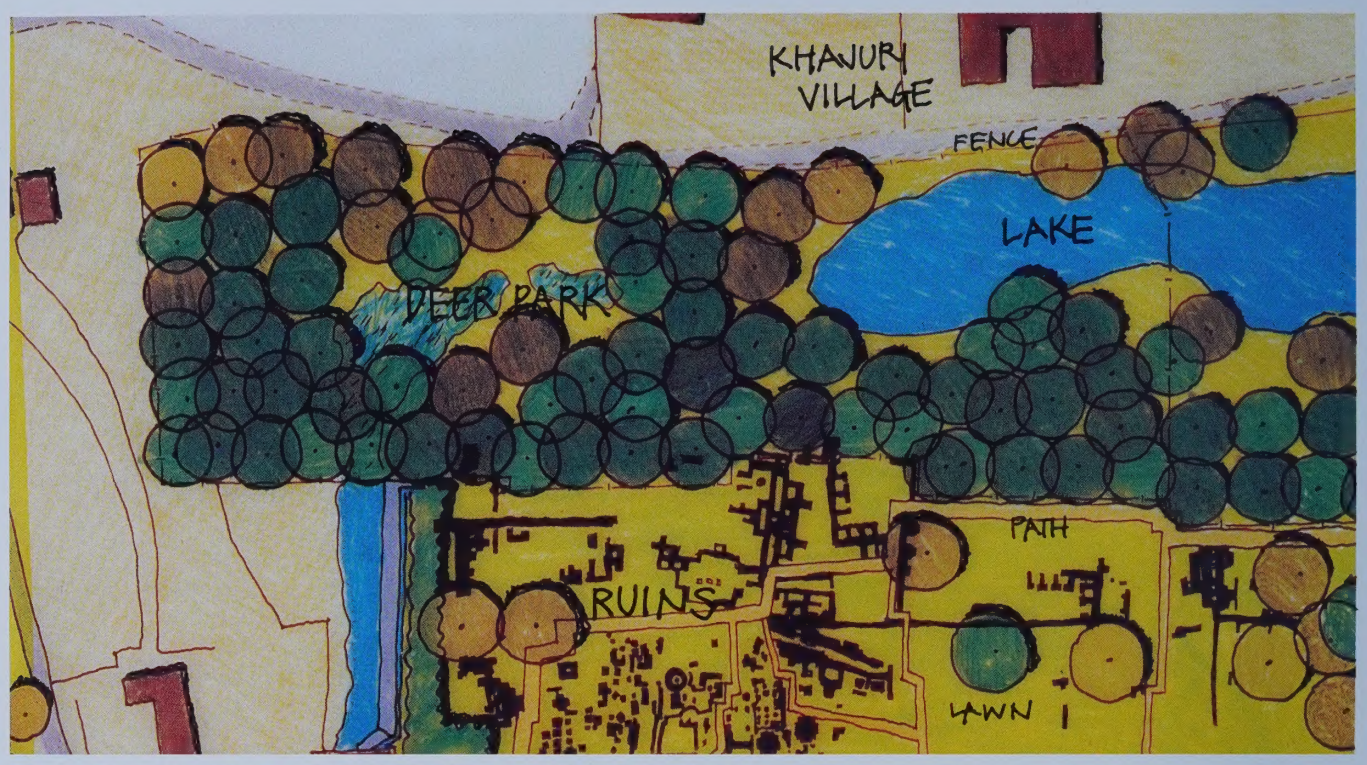

FIGURE IV-33. DEER PARK (EXTENDED ALTERNATIVE).

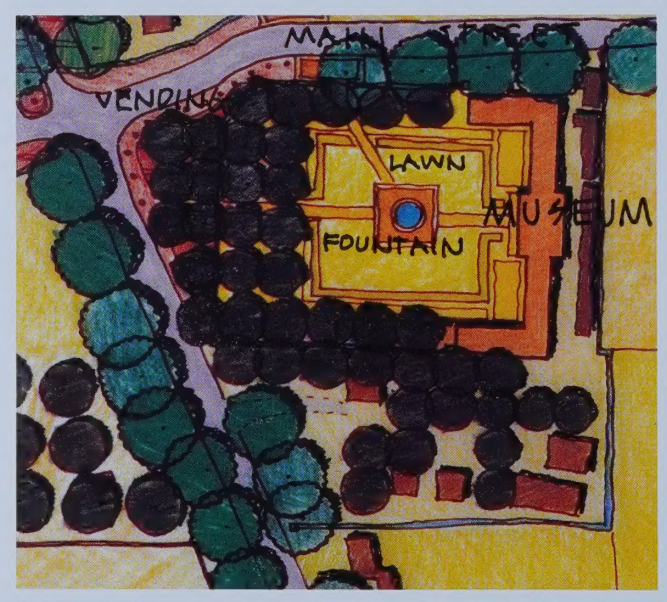

FIGURE IV-34. ARCHAEOLOGICAL MUSEUM (EXTENDED ALTERNATIVE).

Archaeological Museum

Departing the principal site at either the temple precinct gate or, ideally, at a new gate east of the present one, the visitor follows the paving pattern to the Archaeological Museum [Fig. IV–34]. Here is a plaza with potted flowers and a fountain bringing water into the central space. Public restroom facilities are available nearby. The intersection of Main Street with Sarnath Road is relocated further to the west, eliminating the median where the Booking Office presently stands. The museum grounds are thus expanded to the present extension of Sarnath Road, enabling development of a pleasant and shaded lawn area and a paved vending area near the road. While not proposed formally, the much-needed expansion of the museum is permitted by this alternative along either side of the museum grounds.

Zoological Park

In an effort to minimize, or even eliminate, conflicts between uses and users at the principal site, the Extended Alternative proposes the relocation of the zoo to Chaukhandi Park [Figs. IV–35, IV–36]. It anticipates that the multitudes of local visitors from the neighborhood or from greater Varanasi, who presently seek the recreational opportunities of the principal site's open lawns and zoo, will prefer to visit the new park and zoo installation instead of the principal site. This would effectively diminish the currently excessive pressure at the principal site.

Perhaps developed as a cooperative effort with the city of Varanasi, the Chaukhandi Park Zoo provides a stimulating family experience, creating an active, hands-on atmosphere for learning about and enjoying nature. Its educational focus is on Indian forests, their regional species, ecology, and endangerment. Its displays and exhibits encourage empathy for animals by promoting an understanding of their role in the environment, their conservation, and their preservation in their forest habitats. The displays promote responsibility toward wildlife, providing an example of respect for animals and explaining their social, behavioral, and physical needs. The zoo highlights, through educational materials, displays, and programs, solutions to the man-made problem of deforestation.

The animal exhibits are visually separated, creating an illusion of greater space and depth. They are well-vegetated and furnished to suit the animals' needs. The central area contains a pond for monsoon runoff and the display of ornamental carp. It is supplied in the dry season by a tube well. The entire complex is surrounded by a high, irregular wall, which adds interesting spatial configurations. Service access is gained by way of a gate on Ashok Road.

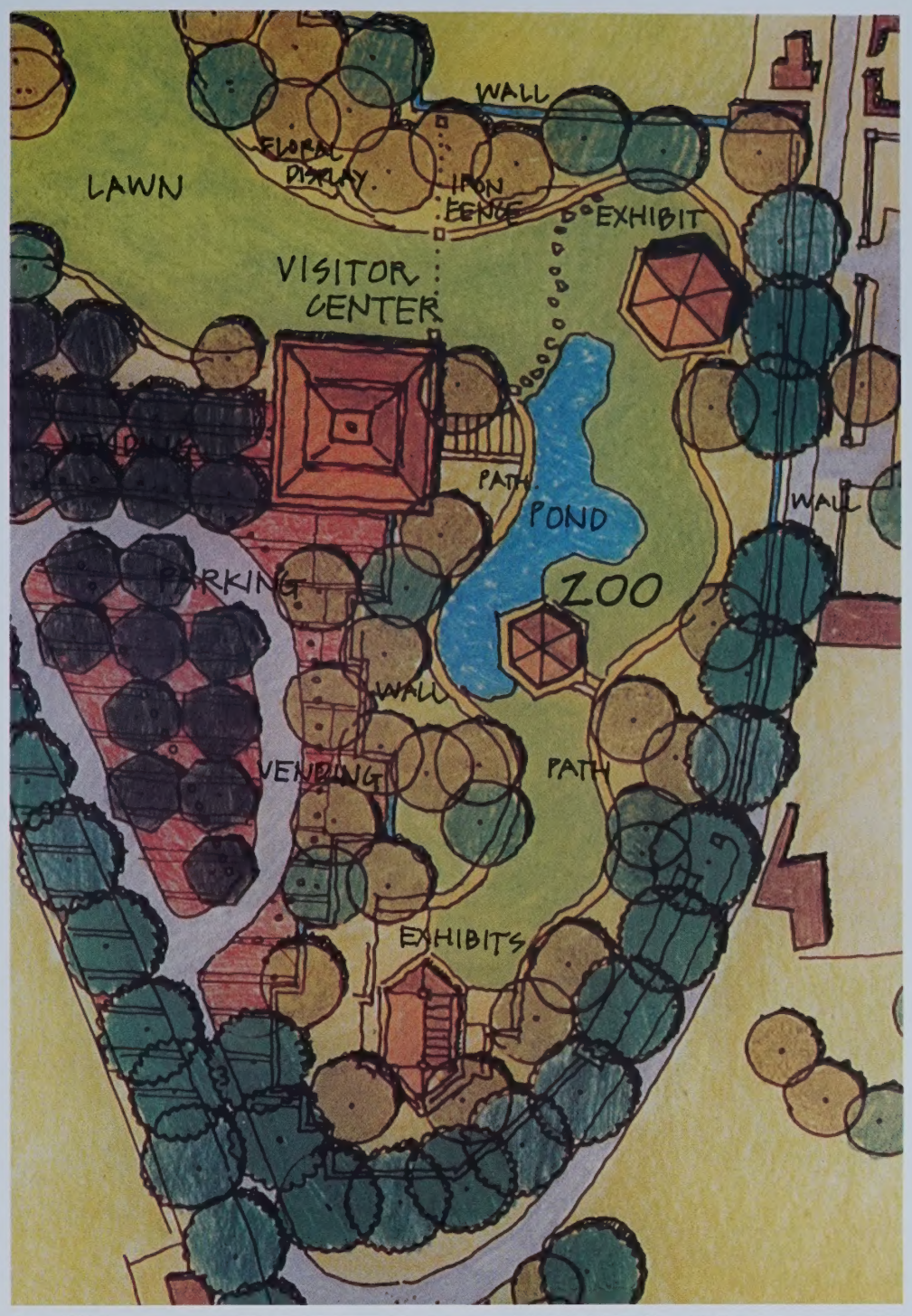

FIGURE IV-35. CHAUKHANDI PARK ZOO (EXTENDED ALTERNATIVE).

FIGURE IV-36. ZOO EXHIBITS (EXTENDED ALTERNATIVE).

DISCUSSION

The conceptual master plan with its alternatives, the Consolidated and the Extended, addresses the issues and goals of the project in a unique and viable manner. The plan's implementation will have an inevitable impact on the quality of life of the residents of Sarnath and will affect, to some degree, each of the agencies and political entities concerned with an increase of tourism at Sarnath [Fig. IV–37]. These include: the Archaeological Survey of India, which manages the ruins compound of the principal site and Chaukhandi, and owns land west of the compound; the Department of Forestry and Conservation, which manages the Mahabodhi Temple Precinct and the Deer Park; the villages of Sarnath; the Indian Ministry of Tourism, the Uttar Pradesh Tourism Office, and the Town and Country Organisation, all of which seek to stimulate tourism here; and the Mahabodhi Society, which manages its temple and elementary school, both located on the principal site.

With a spirit of cooperation and respect for their mutual interest in illuminating and enlivening the story of the Buddha and Sarnath, the concerned parties will be able to share the benefits as well as the changes brought by development. The conceptual master plan provides the framework and guidance for creating at Sarnath an enlightening and memorable experience, while protecting and promoting the local economy and pattern of life.

LEGEND

Liability / Benefit

High ■ ●

Moderate ◪ ◒

Slight □ ○

PLANNING AND DESIGN ISSUE

AGENCY	Rehabilitation of zoo	Relocation of zoo	Relocation of school	Worship/recreation conflict	Expanded recreation	Expanded museum	Additional lodging	Additional parking	Increased economic development	New visitor center	Preservation of ruins	Protection of agricultural lands	Protection of existing residences	Protection of indigenous architecture	Rehabilitation of the deer park	Increased maintenance	Land acquisition	Surrender of unused land	ALTERNATIVE
Archaeological Survey			●			●		○		●	●							■	Consolidated
		◒	●					○		◒	●							■	Extended
Department of Forestry and Conservation	◒				◒			○							◒	□			Consolidated
		●			●			○							◒	■			Extended
Ministry and Uttar Pradesh Tourism	◒		●	◒	◒	●	●	●	●	●	●	◒		●	●		□		Consolidated
		●	●	●	●		●	●	●	●	●	◒		●	●		■		Extended
Town and Country Planning					◒		●	●	●	●	◒	◒	◒	◒	◒				Consolidated
					●		●	●	●	●	◒	◒	◒	◒	◒				Extended
Mahabodhi Society	◪		◒	◒	◒		●		○	○	●				●			■	Consolidated
		●	◒	●	●		●		○	○	●				●			■	Extended
Villages									●			●	●	●					Consolidated
									●			●	●	●					Extended

FIGURE IV-37. DEVELOPMENT IMPACT MATRIX.

FIVE CONCLUSION

As the decision-making process is approached by the agencies responsible for the implementation of a development plan for Sarnath, it is imperative to study carefully the conceptual master plan together with all aspects of its alternative solutions, which are well-considered and innovative. The plan responds with sensitivity to the character of life at Sarnath and to the unique nature of this historic religious site. Implementation of the plan with either the Consolidated or the Extended Alternative, or some combination of alternatives, can create at Sarnath a stimulating, moving, and educational experience—an unforgettable and enlightening encounter with a unique culture and its unique history.

The following summary of development recommendations is provided as an overview for the responsible agencies.

LANDSCAPE AND PRESERVATION

The landscape at the principal site is "naturalized," creating an atmosphere that hearkens back to the Mrigdava, the woodland deer preserve of the Buddha's time. Shade trees are added to provide sheltered areas for study, contemplation, and worship. Dense plantings effectively separate the ruins compound from the activity of the temple precinct. Installed together with walls, the plantings screen out the traffic and commercial activity of the street. Plants, fences, and low walls are utilized to guide the visitor along appropriate paths and to assist in the control of livestock access to the principal site. Areas that are set aside for recreation, either at the temple precinct or near Chaukhandi, contain displays of colorful flowering plants.

The ruins are the elemental feature of the landscape, and their preservation is essential. New pathways are proposed to guide visitors through the ruins while preventing contact with the artifacts. At Chaukhandi, an elevated path to the tower is proposed, preventing further erosion and protecting restoration work while permitting the unparalleled view of the area from the top.

Near Chaukhandi, the lawns are opened and shade trees added to encourage picnicking and recreation. The Extended Alternative creates a park and zoo landscape opposite the stupa, at Sarnath and Ashok roads. Sarnath Road is lined with shade trees to emphasize Chaukhandi's historical relationship with the principal site and to reinforce the atmosphere of the deer preserve.

CIRCULATION

The plan works to improve general vehicular circulation throughout the area, proposing changes at the intersection of Sarnath and Ashok roads. The Extended Alternative simplifies the intersection of Sarnath Road and Main Street by eliminating the extension of Sarnath Road between the Archaeological Museum and the Booking Office. These improvements, together with the addition of parking near the main features in the area, simplify the visitor's approach and arrival, whether by car, taxi, bus, or train.

Pedestrian routes connecting the main features are clearly indicated along Sarnath Road from Chaukhandi to the principal site. A self-guided path is provided through the ruins, facilitating an understanding of the artifacts and enabling close examination of them.

Improvements are proposed to relieve pedestrian pressure at the major elements on the site, the most important being the installation of new walks at the Dhamekh Stupa and at the Mahabodhi Temple. The walk at the Dhamekh Stupa is constructed at a lower level than the existing circumambulation path, enabling visitors direct passage by the monument without disturbing devotees and worshippers on the path. A similar walk around the temple is built at a level lower than the existing terrace. It also provides the visitor a direct passage by the monument without disturbing religious activities on the terrace.

The Consolidated Alternative proposes a new, direct walkway from Main Street to the Deer Park, north of the ruins compound. This walk bypasses the Dhamekh Stupa and the temple, eliminating some of the conflicts between local recreational users of the site and religious pilgrims or general tourists.

CONTEMPLATION/RECREATION

By proposing the creation of new park space near Chaukhandi, the plan moves to create a more contemplative and quiet atmosphere at the principal site. Religious use areas are provided in the landscape for meditation, study, and worship. Active recreation is emphatically discouraged at the principal site, but space for recreation and picnicking is provided near Chaukhandi.

The zoo is redesigned to permit a more enjoyable visitation experience. As proposed at the principal site, it reveals to the visitor the Buddhist principle of harmlessness to all living creatures, and maintains an atmosphere compatible with the nature of the site. As proposed at Chaukhandi, the zoo is more family-oriented, providing recreational and educational activities.

ARCHITECTURE

All proposed buildings and structures are designed in the historic or vernacular style of architecture found in the area, complete with design details and features. All construction and ornamentation are done with indigenous materials, enhanced as needed to reduce maintenance costs. The structure of proposed lodges permits access to private garden spaces, allowing communal gatherings as well as private meditation.

CAPTIVE ANIMAL AND WILDLIFE HABITAT

Improvements are proposed in all areas of the Deer Park, especially in the deer enclosure and the zoo. Much cleanup and stabilization is done in the deer enclosure, including a reduction in the number of both deer species and individual deer, removal of ground rubble, and repair of erosion. Wherever the zoo is located, its containment structures are redesigned, and biologically appropriate environments are established.

INTERPRETATION

An extensive program of interpretation of the site is established, beginning with the opening of a visitor center, either at the Archaeological Museum or at Chaukhandi. Here occurs orientation to the site and its history, including models, illustrations, and an audiovisual presentation. A self-guided tour brochure is made available to enhance the visitor's experience. Throughout the site, interpretive panels are located at major monuments and features. These introduce the features and are keyed to detailed explanations in the brochure.

The Archaeological Museum is redesigned and its galleries organized to more clearly present the many artifacts in the collection. A storyline relating to the life of the Buddha and the history of the deer preserve at Sarnath guides the visitor through the galleries. Additional gallery space is added to the museum as needed.

NEIGHBORHOOD AND SCENIC ENVIRONMENT

In order to prevent uncontrolled roadside development, whether commercial or residential, the plan proposes a system of strict zoning and enforcement. In this manner, the character of the Sarnath neighborhood is preserved, as are the irreplaceable views of the agricultural fields and villages. Agricultural land is preserved from development as much as possible, thus helping to retain the area's rural atmosphere.

LODGING

Additional overnight accommodations are proposed, ranging from five-star to economy-class quarters. All lodging is modern and provides private rooms and baths. Each lodge is equipped with a dining room operated under international standards. The style of each is compatible with, and inspired by, the architecture of the area. Additionally, to accommodate the immense crowds drawn to great religious celebrations and to alleviate their severe impact on the land, dispersed temporary campgrounds are proposed for placement in nearby mangroves and orchards, contingent on the approval of local landowners.

LOCAL ECONOMY

The use of local arts, crafts, and furnishings in the proposed new buildings, as well as the provision of vending zones, encourages local crafts production and sales. A self-sustaining economic cycle is thus set in motion: increased visitors means increased exposure to local handiwork, which points to increased sales and profits.

The design and planning concepts produced by this study provide a solid foundation for proceeding, at the local level, with the preparation of detailed master plans, construction documents, and specifications required for project implementation and construction, whether carried out totally or in increments.

APPENDICES

APPENDIX A
VEGETATION INVENTORY OF SARNATH

Canopy and Shade Trees

Acacia arabica Babul *(Leguminosae)*
Village lands, spoil banks, embankments; plante and self−sown. Fl rainy season; fr Jan−Apr. Moderate−sized evergreen tree.

Aegle marmelos Bael *(Rutaceae)*
Throughout Uttar Pradesh (U.P.); often cultivated, near temples. Fl and new foliage Apr−May; lvs shed Mar−Apr; fr ripens hot season after flowering. Medium−sized, slow−growing, armed, deciduous tree.

Azadirachta indica Neem *(Meliaceae)*
Throughout U.P.; often planted. Fl Mar−May; fr May−Jul. 10−15m sub−deciduous tree.

Bauhinia purpurea Kwiller *(Leguminosae)*
Throughout U.P. Fl Sep−Nov; fr Jan−Apr. 10−12m deciduous tree.

B. variegata Kachnar
Throughout U.P. Fl Feb−Apr; fr Apr−May. 6−8m deciduous tree.

Cassia fistula Almatas *(Leguminosae)*
Throughout U.P.; often cultivated in gardens. Fl Apr−Jun, when nearly leafless; fr Apr, long−persisting. Rarely all leafless anytime in year. 8−10m deciduous tree.

C. nodosa Pink Cassia
Native to Assam, N. India. Fl Apr−Jul. 12−16m deciduous tree.

C. siamea Beati
Cultivated in gardens of area. Fl Jun−Jan. Medium−sized, quick−growing, deciduous tree.

Dalbergia sissoo Shisham *(Leguminosae)*
Small tree in area; in riparian tracts. Recently extensively planted. Leafless Jan−Feb; new lvs and fl Mar; fr cold season. Fairly rapid to moderate growth rate.

Emblica officinalis Aonla *(Euphorbiaceae)*
Throughout area; often cultivated. Leafless Feb−Apr; fl and new lvs Mar−May; fr cold season. Small to medium deciduous tree.

Ficus bengalensis Banyan *(Moraceae)*
One of the best shade trees in U.P. New lvs Apr−May; fr May−Jul. 30m evergreen tree. Religious significance.

F. glomerata Gular
Throughout area. Fr ripens Apr−Jul; new lvs Jan−Apr. Large deciduous tree.

F. religiosa Bodhi
Throughout area; often planted near temples. New lvs Feb−Apr; fr ripens Apr−May, also Nov. Large, spreading, sub−deciduous tree. Religious significance.

Mangifera indica Mango *(Anacardiaceae)*
Extensively cultivated for fruit. Fl Feb−Mar; fr Jun−Jul. Large evergreen tree. Religious significance.

Melia azedarach Persian Lilac *(Meliaceae)*
Usually planted, sometimes escaped. Leafless Dec−Mar; fl Mar−Apr; fr Nov−Dec, long−persisting. Mid−sized deciduous tree.

Mimusops elengi Bakul *(Sapotaceae)*
Often cultivated in gardens of the area. Fl Apr−Jun. 20m evergreen tree.

Peltophorum inerme Copper Pod *(Leguminosae)*
Native of Ceylon. Fl Apr−Jun, Oct−Dec; fr same. 20−25m semi−deciduous tree. **Exotic.**

Polyalthia longifolia Ashok *(Anonaceae)*
Native of Ceylon and Bangladesh. Planted in area as street and near temples. Fl Apr−May; fr July. 20−25m, slow−growing, symmetrical, evergreen tree. **Religious significance.**

Poinciana regia Gul Mohar *(Leguminosae)*
Native of Madagascar; often cultivated in area. Fl Apr; new lvs May; fr after fl in fall, persisting. Large, quick−growing, nearly ever-green tree. **Exotic.**

Sapindus mukorossi Soap Nut *(Sapindaceae)*
Native of China; much cultivated in N. India. New lvs Mar−Apr; fl May−Jun; fr Oct−Nov, persisting. Large deciduous tree. **Exotic.**

Shorea robusta Sal *(Dipterocarpaceae)*
Throughout the area. Fl Mar; fr Jun−Jul. Large deciduous tree. **Religious significance.**

Tamarindus indica Tamarind *(Leguminosae)*
Planted throughout area for fruit and ornamentation. Fl Apr−Jun; fr cold season. Large, long−lived, slow−growing, deciduous tree.

Tectona grandis Teak *(Verbenaceae)*
Planted in U.P. Fl Jul−Aug; fr cold season; leafless Dec−Apr. Small to medium deciduous tree.

Border and Screen Trees

Albizzia lebbek Siris *(Leguminosae)*
Cultivated throughout U.P. Fl Apr−Jun; fr Jan−Feb. Large spreading deciduous tree.

Artocarpus lakoocha Barhal *(Moraceae)*
Cultivated throughout U.P. Found as an escape in northern portion, but doubtfully wild. Fl Mar−Jun; fr rainy season; leafless in hot season. Medium to large, slow−growing, spreading, 60−ft. deciduous tree.

Callistemon linearis Bottlebrush *(Lecythidaceae)*
Native to Australia; grown in U.P. gardens. Fl Mar−Oct. Small evergreen tree. **Exotic.**

Casuarina equisetifolia Jungli jhao *(Casuarinaceae)*
Native to Australia; trained as a hedge. Fl Feb−Apr and again in six months. Medium−large, lofty, quick−growing, evergreen tree with needlelike branchlets. **Exotic.**

Cordia myxa Lissora *(Boraginaceae)*
Throughout U.P. Fl Mar−Apr; fr Jul−Aug. Medium−sized nearly evergreen tree.

Eucalyptus tereticornis Forest Red Gum *(Lecythidaceae)*
Native to Australia. Tall tree. **Exotic.**

Eugenia jambolana Jamul *(Myrtaceae)*
Throughout U.P.; gregarious along nullahs and swamps. Fl May−Jun; fr Jun−Jul. Large, quickgrowing evergreen tree.

Lagerstroemia flos−reginae Jarul Cultivated for flower in U.P. gardens. Fl usually in rainy season; lvs turn purple before fall; fr cold season, long−persisting. Moderate-sized subdeciduous tree.

Prosopis julifolia Mesquite *(Leguminosae)*
Native of Mexico, s.w. U.S. Small, quickgrowing, unarmed deciduous tree. **Exotic.**

Psidium guayava Guava *(Myrtaceae)*
Naturalized in U.P.; extensively grown in gardens. Small deciduous tree.

Putranjiva roxburghii Putrajiva *(Euphorbiaceae)*
Throughout U.P., in moist situations. Fl Mar–May; fr Jan–Mar. Large, handsome, slow–growing, evergreen tree.

Santalum album Chandon *(Santalaceae)*
Planted as far north as Kheri. Fl Aug–Jan; fr Apr–May. Semi–parasitic on the roots of many species of plants. Small deciduous tree.

Saraca indica Ashoka *(Leguminosae)*
Inhabitant of eastern India; sometimes cultivated. Fl hot season. Low–branching evergreen tree.

Tecomella undulata Rohera *(Bignoniaceae)*
Cultivated in U.P. gardens. Fl Nov–Apr; lvs renewed in Jan–Feb. Small, subdeciduous tree or shrub.

APPENDIX B
LISTING OF CAPTIVE ANIMALS AT THE DEER PARK (January 1988)

In the Zoo

Species		***Quantity***
Anas poecilorhynchas	Spotbill or Grey Duck	6
Anser indicus	Barheaded Goose	5
Anthropoides virgo	Demoiselle Crane	5
Anus acuta	Pintail Duck	3
Bubulcus ibis	Cattle Egret	1
Ciconia ciconia	White Stork	3
C. episcopus	Whitenecked Stork	1
Coturnix coturnix	Common Quail	9
Ephippiorhynchus asiaticus	Blacknecked Stork	3
Francolinus francolinus	Black Partridge	1
Funambulus pennanti	Five-striped Palm Squirrel	1
Gallus gallus	Red Junglefowl	3
Gavialis gangeticus	Gharial	2
Grus antigone	Sarus Crane	4
Leptoptilos dubius	Adjutant Stork	1
Mycteria leucocephalus	Painted Stork	6
Pavo cristatus	Common Peafowl	2
Pelecanus phillippensis	Spotbilled Pelican	1
Platalea leucorodia	Spoonbill	1
Porphyrio porphyrio	Purple Moorhen	16
Psittacula eupatria	Large Indian Parakeet	8
Sarkindiornis melanotos	Nakta or Comb Duck	4
Tadorna ferruginea	Brahminy Duck	5
Threskiornis aethiopica	White Ibis	7

In the Deer Enclosure

Antilope cervicapra	Blackbuck	8
Axis axis	Chital	20
A. porcinus	Hogdeer	2
Bosephalus tragocamelus	Nilgai	6
Cervis unicolor	Sambar	6

Undetermined Species

Domestic Rabbit	30
Goose	5
Guinea Pig	20
Miscellaneous small birds	40
Parakeet	30
Parrot	10
Pelican	6
Pigeon	20
Quail	5
Stork	1
Teal	2

APPENDIX C
DESCRIPTIVE HISTORY INTERPRETIVE PROGRAM

Feature	*Story Possibility*	*Principal Audience*	*Media*
Visitor Center	Orientation, Buddha's story, historical time line	Domestic tourist Foreign tourist Pilgrims	Exhibits, maps, site model, audio-video program
Museum	Archaeological discoveries	Foreign tourist Domestic tourist Pilgrim	Literature museum guide/tour
Ruins	Main Shrine, Ashok Pillar, monasteries, stupas, first sermon of the Buddha	Foreign tourist Domestic tourist Pilgrim	Guidebook, wayside exhibits
Mahabodhi Temple	Buddha's life story, worship	Foreign and domestic tourists, pilgrims residents	Guidebook, wayside exhibits
Deer Park	The Buddha and nature	Foreign and domestic tourists, pilgrims, residents	Guidebook, wayside exhibits

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